# FEEDSTUFFS

*The Weekly Newspaper for the Feed Industry*

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## Soybean Export Estimates Raised To 150 Million Bu.

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—U.S. Department of Agriculture officials this week said export sights on soybeans have been raised to the expected level of 150 million bushels.

These estimates of higher exports, plus indicated levels of crushing and other uses, make it appear that total soybean disappearance for the current marketing year will be near the total supply.

The reason for the sharp advance in the anticipated export outlook is attributed to an extreme shortage of cottonseed from world areas other than the U.S. Japan, it is reported, urgently needs oilseed materials since it now appears to be short of about 75,000 tons of cottonseed which it normally obtained from sources other than the U.S. supply.

In addition, responsible U.S. crushers in Texas have previously reported that they have sold all their cottonseed meal in export channels this year at good price levels.

This new higher export estimate for beans is seen as the kiss of death to any edible oil donation program through voluntary aid agencies this year. In fact, using a conservative estimate of the probable crush of beans this year of 385 million bushels, plus exports of the 150 million estimate, plus 30 million or better

(Turn to SOYBEANS, page 8)

## E. C. Dreyer, Industry Leader, Dies at 83

ST. LOUIS—Eugene C. Dreyer, for many years a leading figure in the feed distribution industry, died Oct. 21 at his home here. Mr. Dreyer, 83 years old, had been head of the Dreyer Commission Co. in St. Louis since its formation in 1903. He had been in poor health recently, but had continued in active business on the St. Louis Merchants Exchange until a short time ago.

Mr. Dreyer was active for many years in the Grain & Feed Dealers National Assn., and particularly in the feed distributors' section of that organization.

Mr. Dreyer was one of the large millfeed distributors of the nation and was active in both cash and futures trading in that commodity.

In addition to the St. Louis office,

(Turn to E. C. DREYER, page 111)

## Interest, Opportunities in Beef Cattle Brought Out

By JAMES E. SHARON
Feedstuffs Staff

LAFAYETTE, IND.—Some of the fundamental factors in the increasing interest of feed men and others in modern beef cattle production can be seen in discussions at the "Beef for Tomorrow" conference last week at Purdue University.

The occasion was the National Beef Industry Conference, sponsored by the Agricultural Research Institute and Agricultural Board of the National Academy of Sciences-National Research Council, in cooperation with the Indiana Agricultural Extension Service. General chairman was Dr. R. M. Bethke, vice president of the Ralston Purina Co.

The conference was designed for all segments of the industry, and much of the program was devoted to such things as product characteristics and marketing, in addition to production. However, many of the talks were of interest and significance to the feed industry—especially in view of the fact that the industry is becoming increasingly oriented to problems in marketing of the end product as well as production.

A review of just some of the talks at the two-day conference Oct. 19-20 brings out factors of importance to the feed industry and shows some of the opportunities for progressive beef cattle operations.

Such points as these may be highlighted:

● Population growth alone will mean a tremendous increase in demand for beef. In addition, an increasingly higher standard of living is expected to result in further gains in per capita use of the "king of meats." And this situation may be contrasted with the decline in per capita use of eggs and continuing problems for pork.

● The cattle cycle, with its ups and downs in production and prices, may continue, but "each peak will be higher than the previous peak and each trough will be higher than the previous trough."

● Because of the nature of beef cattle production in the past, this industry has lagged in comparison with some other phases of animal agriculture, in adopting innovations. This, presumably, can mean considerable

(Turn to BEEF CATTLE, page 116)

## Outlook for Early Change In Drug Policy Reported Dim

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON — The outlook for any major change in the near future in the Food and Drug Administration policy statement on the Delaney amendment to the food additive law appears to be quite dark.

This is the statement which resulted in a "freeze" in feed formulas, under certain circumstances, in connection with the use of estrogens and arsenicals.

Some few minor adjustments may be possible in administrative modifications to eliminate some inequities or manifest unfairness in the literal applications of the FDA policy statement concerning substances regarded as suspected carcinogens. But as far as major changes in that policy statement are concerned, there is little, if any, prospect of action now or within several months, and possibly not until after Congress meets next year. Even then, it appears now, there is little basis for real optimism on the part of the feed industry.

These observations are made after penetrating conversations with responsible sources in FDA and after a recent meeting of a three-man American Feed Manufacturers Assn. group with Arthur S. Flemming, secretary of health, education and welfare.

The AFMA group included I. S. Riggs of the Quaker Oats Co., AFMA chairman; W. E. Glennon, association

(Turn to DRUG POLICY, page 4)

## *Michigan Speakers Cover Range of 'Service' Topics*

EAST LANSING, MICH.—Speakers at the Michigan Feed & Grain Assn. Conference covered a range of topics pertaining to the conference theme, "Planning to Serve Agriculture of Tomorrow."

They blasted the government farm program, peered at tomorow's feed additives, talked about grain bank, developments, discussed direct selling to feeders, reviewed recent developments in dairy cattle feeding, and spoke on the responsibilities of feed dealers.

The conference was held at Michigan State University, East Lansing.

Summaries of several of the talks follow. (A report on the association's newly-elected officers appeared in Feedstuffs Oct. 17, page 1.)

**GRAIN BANK OPERATION IN INDIANA—A** summary of answers to questions asked in a recent survey of Indiana grain and feed handlers by Purdue University were presented by Dr. W. S. Farris, professor in the university's agricultural economics department.

He said the survey showed that approximately half (378) of the grain and feed firms in the state have some type of grain bank arrangement. Of 13,528 grain bank customers, 53% used it for hogs, 26% for laying hens, 10% for beef cattle, 9% for dairy cattle and 2% for broilers and turkeys.

Some of the major points of interest regarding grain bank operation were brought out in answers to the following questions:

**1. What facilities and agreements are generally associated with the grain bank?**

Limited storage space is a problem to dealers using a grain bank. Of the

(Turn to MICHIGAN, page 111)

## FEEDSTUFFS *Features This Week*

**FEED SERVICE:** The "new look" in feed service as provided by a locally-owned and operated mill affiliated with a larger feed manufacturer is described on **page 18.**

**FEEDING PULLETS:** An article on limited feeding vs. limited energy feeds for the growing pullet starts on **page 36.**

**INTEGRATION:** A series of articles dealing with trends in integration and contract farming starts on **page 70.**

**END PRODUCT MARKETING:** Talks presented during a discussion on "Marketing the End Product" at the AFMA sales conference begin on **page 84.**

**RESEARCH:** The need for selling the benefits of advances in nutrition brought about through research is pointed out on **page 92.**

**NEW MILL:** How a new feed mill completes the production "circle" for an Arkansas firm is told on **page 98.**

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## New Problems Complicate Chemell Liquidation Task

By Special Corespondent

ATLANTA — Liquidating the Chemell Hatchery organizations in an orderly manner is proving to be a task that is constantly developing new problems without solving some of those which were known to exist at the time the corporations were judged insolvent.

Dent Bostick, Gainesville attorney, who had been nominated as receiver for Chemell, Inc., by a creditors committee for that firm, declined the nomination for trustee. After a meeting in Gainesville this week, James W. West, Gainesville poultryman, was appointed trustee by Judge J. Ellis Mundy, referee in bankruptcy.

W. F. Cummings, Atlanta business man, who had previously been nominated as receiver for Gainesville Hatchery, Inc., and Chemell Hatchery, Inc., was named trustee this week and both trustees took over the active direction of the three corporations.

**First Flock Liquidated**

The first flock to be liquidated was that on which an Alabama bank has foreclosed. The birds were sold

(Turn to CHEMELL, page 111)

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EDITORIAL STAFF—George L. Gates, Editor; Roger Berglund, Managing Editor; John Cipperly, Washington Correspondent; Emmet J. Hoffman, Merchandising Editor; James E. Sharon, James H. Ross, Fred E. Tunks and Vermayne N. Sundem, Editorial Assistants; James S. Barden, Research Director.

WASHINGTON CORRESPONDENT—John Cipperly, 604 Hibbs Building, Washington, D. C., Telephone, Republic 7-8534.

ADVERTISING STAFF—Wilfred E. Lingren, Advertising Director; Carl R. Vetter, Advertising Department Manager; Bruce A. Kirkpatrick, Advertising Production Manager; Leland C. Hubert, Assistant Advertising Production Manager; R. Dale Swenson, Promotion Manager.

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## *Top of the Hopper*

**THE SAD EXPERIENCE OF BANKERS** (not to mention feed manufacturers) in the recent Georgia bankruptcy has caused more than one industry observer to comment that financing arrangements for poultry production likely will become more difficult to obtain.

Beyond the short term, however, some people close to the situation in the Southeast feel that the financial disaster could have some beneficial effects. While the bankers with little experience in such financing likely will take a "hands off" attitude for a time, those who better understand poultry financing operations should not necessarily be discouraged from future lending, it is said.

The total effect for the long term will be to make all hands more careful about the soundness of financing proposals, which is something that has been desired for some time. This could lead to more stable operations all along the line.

Proponents of more local financing of agricultural enterprises note that this way of doing things is a sound approach, and they cite these advantages from the standpoint of feed manufacturers:

- Less capital is required of feed manufacturers if local banks will back dealers.
- Communities like the idea of "doing business locally" in banking as in many other enterprises.
- The need to prove to local bankers the soundness of a dealer organization and his feeder financing operations puts restraints on manufacturers' salesmen.

With the ever-growing demands for more capital a serious problem for manufacturers, the avenue of obtaining more local financing undoubtedly must be followed by many of them in the foreseeable future. If only the least risky loans are approved, so much the better.

**WE WERE SOMEWHAT STARTLED** the other day to receive a sheet of thin paper on which appeared these interesting markings, among others:

雛の生長と栄養に関するアイオワの報告

Feedstuffs 30, 45 (Nov. 8) 133 (1958)

孵化直後の雛について基礎的な試験が行なわれた．試験は，ニューハンプシャー種の雛を精製飼料で飼養し，アミノ酸要求量を求めた．雛の最もよい生長と羽毛の伸長が得られたのはアルギニン 1.6%，リジン1%をふくむものであった．

エストロジェンと雛の生長との関係については，1ポンド当り 15mgのエストロジェンを投与したところ，飼料効率には関係がなかったが，この雛体は脂肪の含量がやや多くなり品質もよくなったとしている．

（座田 大作）

It turned out to be a "teaser," a page torn from the Japanese publication, Kagaku Shiryo, which Frank McBride of Dawe's Laboratories later sent along. The publication consists of abstracts from various U.S. technical journals and trade publications, including a generous allotment from Feedstuffs. The publishers have sold some advertising space, too, including some to Dawe's.

Aside from finding how neatly our material can be compressed into Oriental squiggles, seeing the magazine causes us to reflect on the apparently great interest overseas readers find in animal nutrition developments in the U.S. The above item, by the way, tells about some studies of chick nutrition with purified diets at Iowa State University.

**THE SOYBEAN PROCESSING** industry has been examining with more than a little interest the recent reports of whole soybean processing installations and the research data on results obtained with cooked, "whole meal."

(Turn to TOP OF THE HOPPER, page 8)

# How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

**On a week-to-week basis of comparison, this week's formula feed situation was unchanged from last week. But there were reports indicating that volume was at least as good as a year earlier. Business would be improved by these developments: Colder weather to move livestock and poultry inside; completion of soybean and corn harvesting so farmers could start thinking more about feeding and, of course, better prices for end products. Feedlots are filling up fast in the West and in the mountain states. There was a little improvement in hog prices this week. The top at Chicago Oct. 22 was $14.10, best since Sept. 25. Slightly higher cash prices were paid late in the week for eggs at Chicago and New York. Most ingredient trading was steady to slower, to be followed by lower mixed feed prices. This down market is holding buyers off, consequently affecting demand. Grain exporting looks bullish, with European drouth areas sending out calls. The index of wholesale feedstuff prices declined 1.2 points to 77.9 this week, compared with 76.6 a year earlier. Also on the decline was the feed grain index, down 2.3 points to 62.9 from last week. For the comparable week last year the index was 61.3. Lower corn prices helped move the corn-hog ratio upward 1.2 points to 12—still 3.8 points below the same week last year. (Ingredient prices in detail on pages 112-114.)**

## Northwest

Feed manufacturers in the Northwest used these words to describe the week's business: "Mediocre . . . slow . . . very good . . . running at a snail's pace." A spotty commentary on the situation, but, as you can see, the reports lean toward only fair demand and production.

Though demand for most mills' feed products was no better than last week, volume was, in the majority of cases, ahead of last year's identical week. And that's the comparison that really counts. As one miller put it, "You can't really compare one week's demand with the next. Dealers and feeders might load up and buy ahead this week because of price, and that would necessarily make the next week look bad."

It's hard to say just what types of feeds are moving the best. While some mixers say cattle feeds are at the top of the list, others say grass still is too green to bring about much improvement in cattle feeds. Mixers are in accord, however, in their opinions that "dirt cheap" corn will hurt hog feed sales for quite some time.

They agree, too, that the farmer is too busy harvesting his corn and soybeans to pay much attention to livestock and poultry rations. For the time being, he's content with throwing freshly picked corn into the feedlot.

A down market doesn't help, either. Following the trend in ingredients, feed manufacturers will mark their products down about $1 from last week.

## Southwest

Formula feed plants in the Southwest are running at a good pace this week as the sales level continues about as it has been. Volume, in most cases, is not as large as sales departments would like to see it, but there are few who complain that business is very slow. Most mills will operate five days, normal shifts. An occasional mill will operate six or even seven days.

Cattle feed shipments account for a pretty good share of the volume. Mills that ship to Nebraska note a good movement as ranchers lay in supplies before winter comes. In the southern portions of the territory, cattle feed bookings and shipments have been substantial. Part of this business is said to have come about because of strength in the cottonseed meal market. Cattlemen are turning to formula feed rather than pay the higher cottonseed meal prices.

Dairy rations are picking up in volume regularly as pastures deteriorate. Hog feeds are moving quite well, though not like they were earlier. Feeding ratios in some areas have caused farmers to switch from buying complete hog rations to concentrates to feed with their own grain, cutting into tonnage. Some mills also report that pig starter ration demand is disappointing.

Egg feeds are moving good, especially for mills with special promotions or those with contractual arrangements. Broiler feed volume is down from recent months because of reduced placements but is about steady with recent weeks. Turkeys will be moving to market soon, and mills are feeling a sharp tapering off in demand for this type of feed.

Sales departments, in some instances, express the belief that business will pick up when grain harvest and winter grain seeding is completed. Green grass is still quite plentiful in some areas, another factor believed to be holding back demand. Animal numbers are large but feeding ratios could be better.

Price lists for next week are expected to be mixed; feeds with high protein content up as much as $1 and low protein feeds down about 75¢ ton.

## Northeast

Manufacturers of formula feed thought a little upturn in sales would occur but it didn't come and sales continue to drag.

Turnover in egg mashes, growing mashes and dairy feeds kept the mills going, with turkey feed demand off and broiler feeds down.

The end product picture didn't look too bleak. Broilers held steady, eggs were about steady and farmers are making a good return on their milk. But early reports on turkey prices aren't conducive to good profit margins.

The ingredient market had its ups and downs during the week. A snow-covering, which could take place any day now, would stimulate dairy ingredients but movement of corn and soybeans is holding them down.

Running time of formula feed manufacturers ranged from 32 to 36 hours this week, with some cooperative mills accounting for the four-hour increase from the previous week's 32-hour average.

## Central States

The situation among formula feed manufacturers does not seem to have changed appreciably for the past several weeks. Demand for any of the various lines has not shown any pick-up although a number of concerns seem to lean to the opinion that some

(Turn to MARKETS, page 117)

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# Official Actions of Feed Control Officials' Association Reported

*EDITOR'S NOTE: The following report of official action taken by the Association of American Feed Control Officials at its convention in Washington was supplied by Bruce Poundstone, secretary of the AAFCO. These actions, some of which were reported in Feedstuffs previously (Oct. 17, page 1), can be understood most clearly if read while referring to the 1959 Official Publication of the association. Page and paragraph numbers refer to that publication.*

v v

**Resolution No. 8, page 20, modified to read:** Resolved that no tentative definition or definitions for future discussion be used until adopted as official, unless no official definition exists or unless in accord with the specific action of this Association. (Adopted 1933, Amended 1959.)

### AMINO ACIDS

Definition 6, page 23, "Methionine Hydroxy Analogue Calcium" was dropped and replaced with definition T-1, page 24, which now becomes official and reads:

**Methionine Hydroxy Analogue Calcium** is a product which contains a minimum of 90 percent d1-2-hydroxy-4-methylthiobutyric acid calcium salt. (Adopted 1959.)

### ANIMAL PRODUCTS

Definition T-3, page 25, was revised by changing the ash content from 14% to 16%, remains in tentative status and reads as follows:

**Poultry By-Product Meal** consists of the ground, dry-rendered clean parts of the carcass of slaughtered poultry, such as heads, feet, undeveloped eggs and intestines, exclusive of feathers, except in such trace amounts as might occur unavoidably in good factory practice. It shall contain not more than 16% ash and not more than 4% acid-insoluble ash. (Proposed 1958, Amended 1959.)

The following definition was adopted as tentative:

**Poultry By-Product Meal (Wet-Rendered)**—consists of the ground wet-rendered clean parts of the carcass of slaughtered poultry, such as heads, feet, undeveloped eggs and intestines, exclusive of feathers, except in such trace amounts as might occur unavoidably in good factory practice. It shall contain not more than 16% ash and not more than 4% acid-insoluble ash." (Proposed 1959.)

### BARLEY PRODUCTS

Definition 25, page 26, Ground Barley, was dropped.

Definition 26, page 26, Rolled Barley or Crimped Barley was dropped.

Definition T-4, page 26, was made official and reads as follows:

**Ground Barley** is the entire product obtained by grinding barley. It shall consist of at least 80% sound barley and shall not contain more than 3% heat-damaged kernels, 6% foreign material, 20% other grains or 10% wild oats. (Adopted 1959.)

**Note**—In the above definition, the word "crushed" or "rolled" shall be substituted for the word "ground" where the product has been crushed or rolled instead of ground and the word "crimped" shall be substituted for the word "ground" where the product has been crimped instead of ground.

**Note**—Barley in the above definition corresponds to requirements under the U.S. Grain Standards for whole barley of the grades No. 5 Western Barley or No. 4 Barley.

**Note**—In this definition foreign material shall be all matter other than barley, other grains, and wild oats which is not separated from the barley in the proper determination of dockage.

### CHEMICAL PRESERVATIVES

The following two items were added to definition 32, page 27:

Propionic Acid

1,2-dihydro-6-ethoxy-2,2,4-trimethylquinoline (Label as required by Federal Regulations).

### CORN PRODUCTS

The definition F-1, page 29, was moved from future discussion to tentative status and corrected to read:

**Corn Cob Fraction** is the product obtained by the mechanical separation of one or more fractions of corn cobs. For identification purposes the name of the fraction shall be included parenthetically following the name of the product; e.b., Corn Cob Fractions (Hard Woody Ring and Beeswings). (Suggested 1958, Proposed 1959.)

The following was adopted for future discussion:

**Condensed Fermented Corn Extractives** is the product obtained from the partial removal of water from the liquid resulting from soaking corn in a water and sulphur dioxide solution which is subsequently fermented by the action of naturally occurring lactic acid producing microorganisms in the wet milling of corn. (Suggested 1959.)

A proposal to define Corn Flour was referred back to the investigator for further study, especially in connection with its relationship to definition 42, page 28, Corn Grits or Hominy Grits.

### DRUGS

The following were added to definition 95, page 36, New Drugs:

Diethylcarbamazine

Enzymes (all except pepsin)

Reserpine

The following was added to definition 97, page 36, Not New Drugs:

Ateramin

The term dried rumen organisms in definition 97, page 36, was changed to:

Dried Rumen Bacteria

The Editorial committee was asked to rearrange the section on drug labeling in line with recommendations of the Medicated Feed Labeling Committee and the Executive Committee.

### FATS AND OILS

A sentence was added to the first note at the top of page 42, the entire note to read:

**Note**—The use of the term "feed grade" requires that the specific type of product will have been adequately tested to prove its safety for feeding purposes. In mixed feeds containing fats or fat derivatives "feed grade" defined above, the term "feed grade" may be omitted in the ingredient declaration. (Proposed 1958 and 1959.)

### GRAIN SORGHUMS

Definition T-11, page 43, moved to official status:

**Grain Sorghum Grits** is the product consisting of the hard flinty portions of grain sorghums containing little or no bran or germ. If the name of the variety is given, it must correspond thereto. (Adopted 1959.)

### LINSEED AND FLAX PRODUCTS

The investigator was asked to give further study to editorial changes in definition 117, page 44, and that consideration be given to combining this with definition 115 on page 43.

### MINERAL FEEDS

The following was added as an officially recognized ingredient in definition 157, page 48:

Potassium Iodate

### MISCELLANEOUS PRODUCTS

Added to definition 261, page 63:

Propylene Glycol—a vehicle or carrier.

A proposal to define Ammoniated Condensed Beet Solubles was referred back to the investigator for further study.

### RICE

The following four definitions were adopted as tentative:

**Rice Bran** is the pericarp or bran layer and germ of the rice, with only such quantity of hull fragments, chipped, broken or brewers rice, and calcium carbonate as is unavoidable in the regular milling of edible rice. It shall not contain less than 12% crude protein nor more than 12% crude fiber. When the calcium carbonate exceeds 3% (Ca. 1.2%), the percentage shall be declared in brand name. **Example:** Rice Bran and Calcium Carbonate not exceeding ..%. (Proposed 1959.)

**Chipped Rice, Broken Rice or Brewers Rice** is the small fragments of rice kernels that have been separated from the larger kernels of milled rice. (Proposed 1959.)

**Ground Brown Rice** is the entire product obtained in grinding the rice kernels after the hulls have been removed. (Proposed 1959.)

**Rice Hulls** is the product consisting primarily of the outer covering of the rice. (Proposed 1959.)

Editorial changes were approved so that the following two definitions on page 52 will read:

**No. 181. Ground Rough Rice** or **Ground Paddy Rice** is the entire product obtained in grinding the whole rice grain including the hulls. (Adopted prior to 1928, Editorially Changed 1959.)

**No. 184. Solvent Extracted Rice Bran** is the product obtained by removing part of the oil from rice bran by the use of solvents and must contain not less than 14% crude protein and not more than 14% crude fiber. (Adopted 1951, Editorially Changed 1959.)

The following definitions on page 52 were dropped:

**No. 178.** Rice Bran
**No. 180.** Rice Meal
**No. 182.** Rice Stone Bran
**No. 183.** Rice Huller Bran

### SCREENINGS

What is listed as definition 192 on page 53 is now considered an introductory note to the section on screenings and the second and third paragraphs changed to read:

No grade of screenings shall contain any seeds or other material in amount that is either injurious to animals or will impart an objectionable odor or flavor to their milk or flesh. The screenings shall contain not more than 4 whole prohibited noxious weed seeds per pound, and shall contain not more than 100 whole restricted noxious weed seeds per pound. The prohibited and restricted noxious weed seeds shall be those named as such by the seed control law of the state in which the screenings is sold or used.

All grades of screenings shall bear minimum guarantees of protein and fat and maximum guarantees of fiber and ash. When used in mixed feeds the portion of the description appearing in parenthesis in these definitions need not appear in the list of ingredients. (Adopted 1953, Modified 1959.)

Definition 193, page 53, changed to read:

**Grain Screenings** shall consist of 70% or more of grains, including light and broken grains, wild buckwheat, and wild oats. It shall contain not more than 6.5% ash. It shall be labeled "Grain Screenings (from wheat, corn, oats, etc.)" (Adopted 1953, Editorially Changed 1959.)

(Turn to FEED CONTROL, page 111)

## DRUG POLICY

(Continued from page 1)

president, and J. D. Sykes of the Ralston Purina Co. These men met with Mr. Flemming and the FDA commissioner, George Larrick, to point out to the cabinet officer the inequities and unfairness of application of the FDA policy statement to many elements of the feed industry.

An agreement was made for this group to meet again with FDA officials, including John Harvey, assistant commissioner, and William W. Goodrich, general counsel, to attempt to reach some agreement on adjustments which may be made within the framework of the general policy statement.

It appears, however, that any permitted changes will be minor in nature and that any marked or substantive alteration of the controversial policy statement is unlikely.

At the same time, though, it may be noted that drug interests are continuing their efforts to show safety and obtain an easing of the current situation.

### Color Additive Bill

Meanwhile, of possible interest to the feed industry is the information that the front office of the Department of Health, Education and Welfare has notified FDA that policy at FDA will be not to oppose inclusion of a Delaney clause in the color additive bill which will come before the House when Congress reconvenes in January.

It may be recalled that when the Delaney clause was brought up in the food additive bill, FDA officials spoke in opposition to it as a most difficult implement to administer. That conclusion seems to have been confirmed as FDA has attempted to administer the amendment in regard to suspected carcinogens in animal feeds.

The Senate, at the last session, passed its version of the color additive bill—dealing with such things as cosmetics—but it did not contain the Delaney clause since this was opposed by the Senate sponsor of the measure, Sen. Lister Hill (D., Ala.).

The decision not to oppose a Delaney clause in the color additive bill is regarded by some observers as being of some significance in connection with the law and policy as they apply to feed.

### Future Policy

A further and possibly more important item from a most responsible source is that it is now clear that all future policy at FDA regarding use of suspected carcinogens in food will be determined not at FDA but at the National Institutes of Health. This, it appears, may be one of the toughest hurdles the chemical and feed industries will have to surmount.

The institute is purely and wholly a scientific body which can only be moved by proven data regarding total harmlessness of substances when used in human or animal foods — thereby establishing a condition which is described as being similar to the erosion of Gibraltar by annual rainfall—unless by some turn of fate Congress might be persuaded to modify the Delaney amendment. The latter could probably take one of two courses — either to eliminate the amendment or to end the exceptions which now permit use of certain substances under applications cleared prior to the Delaney amendment adoption.

It also has been learned that the Animal Health Institute will continue to press its course to obtain wide approval by scientific experts of the use of arsenicals in feeds. The aim is to show wide agreement as to safety of use of the additives now being used in feeds.

It is understood that the AHI hopes to impress U.S. officials through sheer weight of scientific evidence with the truth of their case.

*They can't read, but they know it's good news!*

# PRO-STREP in their starter rations reduces stress setbacks, protects their health

**STARTING TIME IS STRESS TIME**—To get chicks off to a fast, healthy start—fortify your starter rations with 100 Gm. of **PRO-STREP.**

The first three weeks of life—when chicks are most sensitive to stress conditions in their environment—call for a program of *high-level* fortification of their starter rations.

And—for maximum protection against stress setbacks, there is *no* antibiotic that can equal the effectiveness of **PRO-STREP**...at a lower unit cost. Merck Chemical Division, Merck & Co., Inc., Rahway, New Jersey.

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**PRO-STREP®**
(procaine penicillin and streptomycin in a ratio of 1:3)
*with* **THE MERCK MARGIN OF SURETY**

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# Report Indicates 20% Gain In Number of Cattle on Feed

WASHINGTON—A substantial increase in cattle feeding is evident in the U.S. Department of Agriculture's latest cattle and calves on feed report. The Crop Reporting Board said in its report based on Oct. 1 data that the number of cattle and calves on feed for market in 21 feeding states was 20% greater than a year earlier. (Earlier story: Page 1, Oct. 17 Feedstuffs.)

It is evident, also, in the USDA summary that western states show a bigger percentage increase in numbers than states in the Corn Belt.

If feeders' intentions are carried out, marketings for the final quarter of 1959 will be 24% ahead of the same three-month period last year.

USDA reported the following facts and figures on cattle and calves:

**Numbers on Feed Up 20% in 21 States**—The number of cattle and calves on feed for market in 21 feeding states totaled 4,766,000 head Oct. 1. This was an increase of 20% from the 3,986 000 head on feed Oct. 1 a year earlier, but 7% below the number on feed July 1, 1959.

In 13 states for which quarterly data are available since 1955, the number of cattle and calves on feed Oct. 1, 1959, was estimated at 4 333,000 head—20% above the 3,611,000 on feed Oct. 1, 1958, and the highest of record for Oct. 1. The July-October decline of 8% for the 13 states was less than the decline shown in 1958 and 1957.

Cattle and calves on feed in nine north central states at 3,048,000 head this October compare with 2,649,000 head a year earlier—an increase of 15%. All these states showed an increase from Oct. 1 a year earlier, except South Dakota, which was down 3%.

For the four western states—Texas, Colorado, Arizona and California—the number of cattle on feed Oct. 1, 1959, at 1 285,000 head was up 34% from Oct. 1, 1958. These same states had 1,244,000 head on feed July 1, 1959.

**Placements Up 21%; Marketings Up 4%**—Cattle and calves placed on feed in the 13 states totaled 2,383,000 head during the July-September quarter—up 21% from the same months last year. The nine north central states showed an increase of 15%, while the four western states showed an increase of 36% from a year earlier in the number placed on feed since July 1.

Shipments of stocker and feeder cattle into nine north central states for which records are available for the period July through September were up 15% from a year earlier. Current reports from ranchers and farmers in the western states indicate that contracting for future delivery is below a year ago.

Fed cattle marketed from the 13 states during July-September, 1959, were 4% above the third quarter of 1958. The increase in the nine north central states was 1%, whereas the number marketed in the four western states was up 16%. California and Texas showed the sharpest increases.

Beef steers and heifers sold out of first hands for slaughter (prime, choice, and good) during July, August and September at seven markets for which comparable data are available were 3% below the number sold during the same period in 1958. These sales do not include direct sales to packing plants, mixed lots of steers and heifers, or some deliveries bought on prior contracts.

For the 21 states, 2,647,000 fed cattle and calves were placed on feed and 3,008,000 head were marketed during the July-September period of 1959.

**Weight of Cattle on Feed**—A breakdown of Oct. 1 numbers on feed in the 21 states by weight groups indicates a substantial increase from a year earlier in the number of cattle weighing less than 900 lb. The number weighing less than 500 lb. totaled 309 000 head Oct. 1, compared with 223,000 a year ago; the 500-699 lb. group at 803,000 head was up 252,000 head, and the 700-899 lb. group at 1,600,000 head was up 205,000 head.

The number weighing over 900 lb. totaled 2,054,000—up 237,000 head from a year earlier. The number weighing less than 500 lb. accounted for 6% of the total compared with 5% last year; those weighing 500-699 lb., 17% this year, and 14% last year; 700-899 lb. group, 34 and 35%, respectively; 900-1,099 lb. group, 35 and 37%, and 1,100 lb. and over, 8 and 9%.

**Kinds on Feed**—Of the number on feed Oct. 1 in the 21 states, 71% were steers and steer calves compared with 74% a year earlier. Heifers and heifer calves accounted for 28% compared with 25% a year earlier.

**Time on Feed**—In the 21 states, the number of cattle on feed Oct. 1 that had been on feed less than three months was 22% above the Oct. 1, 1958, number, whereas the number on feed 3-6 months was up 14% and the number over six months was up 21%. As a per cent of total cattle on feed Oct. 1, the number of feed less than three months was 54%, 3-6 months was 25%, and on feed more than six months was 21%. Last year, 53% were on feed less than three months; 26%, 3-6 months; and 21% on feed more than six months.

**Marketing Intentions**—Cattle feeders reported that of the cattle and calves on feed Oct. 1, they expect to market 3,176,000 head in October, November and December. If intentions are carried out, marketings for this quarter would be 24% above the 2 562,000 head marketed from the Oct. 1 inventory during the same three-month period last year.

In the last three years, feeders have actually marketed fewer cattle during the October-December period than intended. Actual marketings accounted for 84% of intentions in October-December, 1956, 92% in 1957 and 95% in 1958.

**Cattle and Calves on Feed in Selected States by Quarters, Oct. 1, 1958, July 1 and Oct. 1, 1959, with Comparisons***

| State | Oct. 1, 1958 | July 1, 1959 | Oct. 1, 1959 | Oct. 1, 1959, as % of Oct. 1, 1958 |
|---|---|---|---|---|
| | ——1,000 head—— | | | % |
| Ohio | 90 | 118 | 103 | 114 |
| Indiana | 118 | 180 | 142 | 120 |
| Illinois | 372 | 481 | 409 | 110 |
| Minnesota | 205 | 336 | 250 | 122 |
| Iowa | 911 | 1,260 | 1,029 | 113 |
| Missouri | 147 | 204 | 181 | 123 |
| So. Dakota | 155 | 203 | 150 | 97 |
| Nebraska | 443 | 520 | 540 | 122 |
| Kansas | 208 | 157 | 244 | 117 |
| 9 N. C. states | 2,649 | 3,459 | 3,048 | 115 |
| Texas | 110 | 147 | 182 | 165 |
| Colorado | 228 | 256 | 262 | 115 |
| Arizona | 135 | 193 | 205 | 152 |
| California | 489 | 648 | 636 | 130 |
| 13 states | 3,611 | 4,703 | 4,333 | 120 |
| Pennsylvania | 49 | 50 | 50 | 102 |
| Michigan | 53 | 80 | 64 | 121 |
| Wisconsin | 55 | 66 | 69 | 125 |
| No. Dakota | 45 | 68 | 56 | 125 |
| Oklahoma | 23 | 29 | 40 | 174 |
| Montana | 32 | 26 | 27 | 84 |
| Idaho | 85 | 74 | 90 | 106 |
| Utah | 33 | 31 | 37 | 112 |
| 21 states | 3,986 | 5,127 | 4,766 | 120 |

*Estimates include only cattle being fattened for market as a more or less distinct agricultural enterprise, and excludes small operations incidental to dairy and general farming. Cattle thus fed are presumed to produce carcasses that will grade good or better.

## Maritime Milling Firm Names Vice President

BUFFALO, N.Y.—L. M. Richardson was recently appointed vice president in charge of sales for Maritime Milling Co. and Park & Pollard Co., Inc., both subsidiary organizations of the George Urban Milling Co.

L. M. Richardson

The appointment was announced by Arthur G. Hunt, vice president and general manager of both feed manufacturing firms. Mr. Richardson formerly was sales manager for Maritime and Park & Pollard. He first joined Park & Pollard in 1937. Except for one and one half years as New England sales manager for the DeKalb Agricultural Association, Inc., DeKalb, Ill., he served as a poultry specialist for Park & Pollard until the firm merged with Maritime in 1956. At that time he was appointed to the sales department of the combined firms.

## Co-op to Build $300,000 Feed Mill

OMAHA — Consumers Cooperative Assn., Kansas City, Mo., will build a $300,000 feed mill at Fremont, Neb., according to a recent announcement by Howard A. Cowden, president of the association. He spoke before a farm cooperative meeting at the Livestock Exchange building here.

Mr. Cowden said the mill will be able to produce 24,000 tons of mixed feeds annually. The product will go to member cooperatives in eastern Nebraska.

The mill is part of a general expansion of CCA's feed program, Mr. Cowden said. It is expected to begin operations next summer.

He said, "The continued unfavorable position of agriculture in the cost-income field is causing farmers to give more consideration to the importance of their cooperatives."

He cited the trend toward vertical integration in agriculture and said farmers are seeking the aid of cooperatives "as an alternative to letting integration fall into the hands of non-farming interests."

## Oilseed Meal Futures Irregular at Memphis

MEMPHIS, TENN.—Oilseed meal futures were irregular on the Memphis Board of Trade the past week, compared with a week earlier. The October contract expired Oct. 20.

There was a strong cash oil meal demand, particularly in cottonseed oil meal, the result of continued good export business. In the face of this demand and prices moving upward, mills were reportedly not offering much oil meal. They were anticipating even higher prices. Cash cottonseed oil meal advanced about $2 ton during the week.

Soybean oil meal trading was dominated by a strong nearby demand, leaving a decided premium over forward months. The weather was a big factor, with a clearing trend part of the period bringing selling in soybeans and subsequently soybean oil meal.

Traders anticipate a counter-balancing for large production by a cooler trend in the weather which normally brings better mixed feed business.

Memphis basis soybean oil meal closed Oct. 20 $1.75 lower to $1.25 a ton higher. Unrestricted soybean oil meal was unchanged to $1.10 lower. Bulk solvent cottonseed oil meal closed 25¢@$1.75 higher.

## Plans Set for W. Va. Convention

DAVIS, W.VA.—The program for the 1959 West Virginia Feed Dealers Assn. convention at Blackwater Falls Lodge in Davis Oct. 29-30 has been announced. Selling, nutrition, feed laws, financing, freight rates and service will be among the subjects discussed.

Talks scheduled for Oct. 29 include: "Feed Selling Beyond the Sale Itself," by L. W. Cassel, Whitmoyer Laboratories, Inc.; "Feed Nutrition Research by the Bag or Bulk" by Dr. E. I. Robertson, John W. Eshelman & Sons, Lancaster, Pa.; "The Effect of Radioactive Fallout on the Feed Industry" by Dr. Homer Patrick, West Virginia University, and "Feed Laws —Past, Present and Future" by A. J. Smith, McMillen Feed Mills, and chairman of the Feed Control Relations Committee of the American Feed Manufacturers Assn.

The evening of the first day will be devoted to an annual business meeting, social hour and banquet.

During the morning of Oct. 30, Dr. Roy M. Kottman, dean of the West Virginia College of Agriculture, will give an address entitled "Working Together for a Greater West Virginia." Three other speakers will take up the topic "Is Financing Still Available?" They are John Coffindaffer, Production Credit Assn.; Kenneth Shaffer, Farm Home Administration, and Delbert Williams, Small Business Administration.

Addresses in the afternoon are: "Possible Freight Rate Adjustments on Grain and Feed Ingredients" by Howard Benson, Eastern Feed Merchant, Sherburne, N.Y., and a panel discussion on "What Does the Feeder Expect from the Feed Dealer?" Panel speakers will be Bill Moore, Southern States Cooperative, speaking for the feed dealer; Dave VanMeter, Petersburg, W.Va., speaking for contract feeders, and Griffin Boggess, Lumberport, W.Va., speaking for the cash purchase feeder.

The convention will end at noon Oct. 30.

## To Discuss Pelleting At Nebraska Meeting

LINCOLN, NEB.—The cost and engineering aspects of pelleting livestock and poultry feed will be outlined by C. N. Hultberg, vice president of the California Pellet Mill Co., Crawfordsville, Ind., at the 11th annual Nebraska Feed and Nutrition Conference.

The conference will be held Oct. 29 on the agricultural college campus of the University of Nebraska.

Dr. L. S. Pope, professor of animal husbandry at Oklahoma State University, will discuss the nutritional aspects of feed pelleting.

Other nutrition subjects also are scheduled for discussion.

## *Chicago Feed Club Elects New Officers*

CHICAGO — Gerald A. Karstens, publication director, Feed Age Magazine, Chicago, was recently elected president of the Chicago Feed Club.

Other officers elected include: vice president, William A. Harris, regional sales manager, St. Regis Paper Co., Chicago; treasurer, Arthur C. Buckle, manager, Chicago feed division, Corn Products Sales Co., Chicago, and secretary, David M. Mann, trader, Cereal By-Products Co., Chicago.

J. Robert Chivers, assistant purchasing agent, Hales & Hunter Co., Chicago, and Russell Paarlberg, general manager, Farm Bureau Milling Co., Hammond, Ind., were elected directors to serve two years.

# Broiler, Egg-Type Chick Output Off As Demand Lags

WASHINGTON — Production of both broiler and egg-type chicks during September was down from a year ago, the U.S. Department of Agriculture reports. And, with demand for both types of chicks running below last year, decreases are expected in the October hatches also.

USDA reports the production of chicks by commercial hatcheries during September was down 10% from a year ago, but was up 23% from the 1953-57 average for the month. The number of broiler-type chicks hatched was down 9% from September, 1958, and the number of egg-type chicks hatched was down 16%.

The number of broiler-type chicks produced during September totaled 118,672,000, compared with 130,303,000 in September, 1958. Production of broiler-type chicks January through September totaled 1,428,159,000—2% more than during the first nine months of 1958.

Egg-type chicks hatched in September totaled 13,827,000, compared with 16,550,000 in September, 1958—down 16% from a year earlier. Production January through September totaled 504,153,000—7% less than the same period in 1958.

Demand for broiler- and egg-type chicks remains below that of a year ago, and smaller October hatches than last year are in prospect. The number of broiler-type eggs in incubators on Oct. 1 was 12% less than a year earlier, and the number of eggs for egg-type chicks was 16% less.

## *Antibiotic for Sheep Is Accepted by FDA*

NEW YORK — Aureomycin chlortetracycline has been accepted by the U.S. Food & Drug Administration as an aid in reducing the incidence of vibrionic abortion in breeding sheep, according to an announcement by the American Cyanamid Co.

The approved claim states that the antibiotic is to be administered continuously during pregnancy at a daily level of 80 mg. per ewe.

Vibrionic abortion is an acute infectious disease of sheep characterized by abortion during the last half of the gestation period. Outbreaks in a flock have resulted in losses as high as 70% of the lamb crop.

The disease is sporadic and is prevalent in all sections of the country, although incidence is particularly high in the Rocky Mountain area. Outbreaks often occur in areas with no previous history of the disease.

The use of Aureomycin as a preventive for vibrionic abortion in sheep was investigated by Dr. Floyd Frank of the Idaho Agricultural Experiment Station at Caldwell. Further tests were conducted under practical range conditions with sheep ranchers.

## *Khapra Beetle Found In German Freighter*

CLEVELAND, OHIO—Recent discovery of an infestation of Khapra beetles in the hold of the German freighter "Concordia" at Cleveland marked the first such incident of possible entry of this pest in the Midwest.

The insects, mostly in the larval stage, were occupying an area containing the residue of a former shipment of peanuts from Nigeria which had been unloaded at Rotterdam, Holland.

E. B. Fryer, in charge of the U.S. quarantine work of the agricultural research service at Cleveland, said the ship was immediately fumigated with methyl bromide to eradicate the beetles.

# *Ingredient Market Quiet This Week*

Outside of a few exceptions, the feed ingredient market this week was down from last week. Reports collected by the U.S. Department of Agriculture indicated that trading was quiet to fair.

Many mixers found themselves well supplied after buying substantial amounts of ingredients during the recent period of unfavorable weather which prevented harvesting of soybeans and corn.

Increased offerings of soybean meal brought down prices $1@2 ton. Millfeeds slipped a bit. Linseed oil meal and alfalfa meal remained fairly steady. Animal protein feeds fell $2 @5 ton.

**Average Bulk Prices and Index of Weighted Prices***
**(Dollars per ton)**

| | Oct. 20, 1959 | Oct. 13, 1959 | Change from previous week |
|---|---|---|---|
| **OILSEED MEALS** | | | |
| Prices at prin. mkts.: | | | |
| Soybean meal | 65.15 | 67.80 | —2.65 |
| Cottonseed meal | 64.20 | 61.85 | +2.35 |
| Linseed meal | 75.65 | 74.90 | + .75 |
| Copra cake or meal | 68.00 | 68.00 | ... |
| Peanut meal | 61.75 | 60.25 | +1.50 |
| Index | 85.5 | 87.0 | —1.5 |
| **ANIMAL PROTEIN FEEDS** | | | |
| Prices at prin. mkts.: | | | |
| Meat meal | 72.00 | 73.50 | —1.50 |
| Tankage | 72.50 | 74.15 | —1.65 |
| Fish meal | 117.00 | 117.00 | ... |
| Index | 71.4 | 72.4 | —1.0 |
| **GRAIN HIGH-PROTEIN FEEDS** | | | |
| Prices at prin. mkts.: | | | |
| Gluten feed & meal | 42.40 | 42.40 | ... |
| Dist. dried grains | 45.20 | 45.20 | ... |
| Brewers dried grains | 38.30 | 38.30 | ... |
| Index | 65.9 | 65.9 | ... |
| **WHEAT MILLFEEDS** | | | |
| Prices at prin. mkts.: | | | |
| Bran | 37.00 | 37.95 | — .95 |
| Middlings & shorts | 40.10 | 42.00 | —1.90 |
| Index | 69.7 | 72.3 | —2.6 |
| **OTHER MILLFEEDS** | | | |
| Prices at prin. mkts.: | | | |
| Hominy feed | 39.60 | 40.50 | — .90 |
| Rice bran | 32.25 | 32.50 | — .25 |
| Index | 62.2 | 63.3 | —1.1 |
| **ALFALFA MEAL** | | | |
| Prices at prin. mkts. | 52.90 | 51.50 | +1.40 |
| Index | 101.8 | 99.1 | +2.7 |
| **MOLASSES, FEEDING** | | | |
| Prices at prin. mkts. | 22.94 | 22.94 | ... |
| Index | 68.3 | 68.3 | ... |
| **ALL FEEDSTUFFS** | | | |
| Index | 77.9 | 79.1 | —1.2 |
| **FEED GRAINS** | | | |
| Prices at prin. mkts.: | | | |
| Corn | 38.00 | 39.40 | —1.40 |
| Oats | 47.50 | 46.60 | + .90 |
| Barley | 43.40 | 42.70 | + .70 |
| Grain sorghums | 35.75 | 36.10 | — .35 |
| Index | 62.9 | 65.2 | —2.3 |

*Base period of index is 1947-49.

# Slight Improvement In Broiler Prices

SALISBURY, MD. — Delmarva's broiler prices showed slight improvement last week over the previous week and were a trifle better than a year ago.

For the week ended Oct. 17 the average price was 15.61¢, compared to the previous week's 15.18¢. A year ago the price was 15.55¢.

Perhaps an increase of eggs set last week in 16 of the 22 broiler producing states is the result of price improvement. Hatcherymen set 36,151,000 eggs during the week—3% above the previous week, but 5% less than a year ago. The sharpest increases were in Delaware, Maryland, Virginia and North Carolina.

Broiler chick placements in the 22 states last week totaled 23,475,000. This was 3% less than the previous week and 10% below the corresponding week a year ago. Decreases were reported in 15 states compared with the previous week. Largest decreases occurred in Alabama, North Carolina Virginia, Pennsylvania and Maine.

A. DRUG: Hygromycin B (Common Name) — HYGROMIX (Trade Name)
CHEMICAL NAME: Hygromycin B
CARRIER OR DILUENT: S. hygroscopicus fermentation products and soybean millfeed
ELI LILLY AND COMPANY (Company) has cleared the following with FDA:
[ ] New Drug [X] Not New Drug [ ] Certifiable Antibiotic
WARNING: Discontinue use of this feed 48 hours before slaughter.

| Animal | Levels (Range) | Claims Allowed |
|---|---|---|
| Swine | 12 gm./ton (complete ration) (.006 gm./lb.) | Control of infestation of Large Roundworms (Ascaris), Nodular Worms (Oesophagostomum), and Whipworms (Trichuris). |

DATE: 3-25-59

* Only levels above .042 grams/lb. are new drugs.

**SAMPLE CARD—Here is a sample of a card designed by the Medicated Feed Labeling Committee of the Association of American Feed Control Officials to help achieve proper labeling of medicated feeds. Drug manufacturers are being asked to supply control officials and feed manufacturers with 5 by 8 in. cards including pertinent data on each drug on a type A card (illustrated) and for combinations of drugs on a type B card.**

# *Control Officials Hope to Build Card File of FDA-Cleared Drugs*

WASHINGTON—The cooperation of pharmaceutical manufacturers is being sought by the Medicated Feed Labeling Committee of the Association of American Feed Control Officials in establishing an "official" card file of drugs cleared by the Food and Drug Administration for use in feeds.

The program, intended to be an aid to prompt and proper feed registration, was described at the AAFCO meeting by the chairman of that committee, Dr. F. W. Quackenbush, Lafayette, Ind.

Drug manufacturers are being asked to complete a card for each drug or combination of drugs to be submitted to the feed labeling committee for approval. The cards (see sample above) would include all pertinent information concerning levels and claims which have FDA clearance. Also included on the cards would be the common name of the drug, the trade name, the carrier or diluent, warning statement and class of animal.

"Such cards would save a lot of time and would help some feed manufacturers avoid too great enthusiasm in making claims as to what the product will do," Dr. Quackenbush said. "The program should help prevent delays in registration of feeds which contain drugs."

Drug manufacturers are being asked to supply 150 copies of each approved card to the AAFCO committee for distribution to control officials. Also, it is suggested that the drug firms may want to distribute copies to feed manufacturers.

Dr. Quackenbush noted that control officials are receiving an ever-increasing number of inquiries from feed manufacturers to "clear" labels for feeds which contain drugs or combinations of drugs. "Often I am asked for an opinion as to whether a label has the acceptability of the Food and Drug Administration," he said. "Of course, I am usually not in a position to provide this information."

Success of the program will depend upon its support by the drug manufacturers, he said. A letter requesting cooperation and an instruction sheet was sent to manufacturers earlier this month.

# European Demand For Grain Grows

WASHINGTON—Extremely higher exports of feed grains to the dollar-buying drouth areas of western Europe are forecast not only for this year but running well through 1960.

Observers say that feed crops in western Europe have been planted in dust with little or no sub-soil moisture, meaning that crops again will be unfavorable in 1960.

Some reports are now contemplating an export of corn this crop year in the magnitude of 250 million bushels, with heavy exports of barley and other feed supplies, including oats. Western European demand is generally for forage crops, but it is not seen that the U.S. can participate in this requirement.

## *Charles Hawks Dies In Little Rock, Ark.*

LITTLE ROCK, ARK. — Charles D. Hawks, 46, general manager of the Arkansas Poultry Federation and Junior Broiler Auction, died recently at his home in North Little Rock.

Mr. Hawks had been in ill health for several months but had continued to be active in federation affairs.

Just recently he received a plaque at the Arkansas Livestock Exposition "in grateful recognition of his outstanding contribution to the phenomenal development and success of the poultry industry in Arkansas" and to the Arkansas Poultry Federation.

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## TOP OF THE HOPPER

(Continued from page 2)

Some acknowledge that the method shows promise in areas where soybean production has expanded and no solvent processing facilities exist, but they predict that the economic picture will change when usual processing gets under way in these areas and regular meal becomes available locally. Soybean industry people also note that relatively expensive equipment is needed to handle properly the cooking process, which reduces some of the advantages claimed for the whole bean processing method.

**More feed manufacturers are reported to be offering premixes and super-concentrates to dealers and selected feeders. Whether or not this can be termed a "trend" isn't known, but there is concern that widespread use of this form of nutrient distribution could hasten the day of reaching over-capacity of mills built to provide complete feeds and concentrates.**

**ONE FACTOR INFLUENCING** feed manufacturers to offer premixes, according to trade reports, is the need to meet competition from consultants offering formulation service to big feeders. A feed manufacturer, willing to sell premixes, can offer the resources of his research facilities in place of individual consultant service, claiming that he can more broadly spread the costs of such a service since he is conducting research for many customers simultaneously.

**BOB GARST, THE IOWA** farmer and seed corn tycoon who recently entertained a prominent Russian, has an unusual source for at least some of his nutrition information, according to a newspaper report. Mr. Garst told a Chicago Sun-Times reporter that he originated the method of feeding cattle corn cobs, molasses and urea after consulting the Encyclopaedia Britannica. Cobs are a byproduct of his seed corn business—some 5,000 tons a year. The encyclopaedia told him that cattle needed protein in their diet but that cobs don't have enough of it. It also told him that urea is the cheapest form of protein.

When visiting Russians ask him how he can afford to have a swimming pool, he replies, "If you burn up cobs, you can't afford one. This is the pool built by cobs and frugality."

## New Personnel, Assignments Announced In Miller Publishing Company Expansion

MINNEAPOLIS — Robert S. Harrison has joined the Chicago office of The Miller Publishing Co. as an advertising representative for Feedstuffs and Feedlot, Wilfred E. Lingren, executive vice president and advertising director, announced this week.

R. S. Harrison

Mr. Harrison's appointment, effective Nov. 2, is one of several personnel assignments expanding and realigning the sales force of the eight Miller business publications.

Mr. Harrison formerly was advertising sales manager of Hatchery & Feed, published by Watt Publishing Co., Mt. Morris, Ill. He also represented other Watt publications in Illinois and Iowa. Prior to joining Watt in 1952, Mr. Harrison represented Successful Farming in New York. He had earlier experience with Westinghouse Electric Co. and Armour & Co. in the fields of advertising and public relations. Mr. Harrison served as president of the Chicago Junior Association of Commerce, and is a past vice president of the U.S. Junior Chamber of Commerce. He is a graduate of the University of Illinois. Mr. Harrison replaces Henry French, who recently resigned.

Don Rogers, manager of the Chicago office, will continue to supervise sales for all Miller publications in the Central states area and will work directly with Feedstuffs and Feedlot. Advertising sales for The Northwestern Miller, Milling Production and The American Baker have also been transferred to Mr. Rogers.

Amos Standish represents Farm Store Merchandising and Croplife in the Chicago office.

Martin E. Newell, with headquarters in Kansas City, will continue in charge of advertising sales for Feedstuffs and all of the Miller publications in the South and Southwest. Thomas E. Letch also continues in the Kansas City office as advertising sales representative on all the company's publications.

**New York**

George W. Potts, formerly in the New York office of the company, has been transferred to the home office in Minneapolis where he has assumed duties as advertising sales manager for The Northwestern Miller, Milling Production and The American Baker.

Paul L. Dittemore, manager of the New York office, will continue to supervise advertising sales for all Miller publications in the East. He will continue to work directly with Feedstuffs and Feedlot. Advertising sales for The Northwestern Miller, Milling Production and The American Baker have been transferred to Mr. Dittemore also. James W. Miller also represents Feedstuffs and Feedlot in the New York territory.

The appointment of Archy S. Booker, Jr., as eastern representative for Farm Store Merchandising and Croplife was also announced by Mr. Lingren. Mr. Booker was advertising director for Hoard's Dairyman and for the past 23 years has represented Hoard's in the East and Southeast.

**Los Angeles**

Other assignments in the firm's expanded sales program include the appointment of Frank Wenter & Co., Los Angeles, as publisher's representative for Feedstuffs, Feedlot, Croplife, Farm Store Merchandising and Professional Nursing Home. Mr. Wenter has a 24-year background in the

(Turn to EXPANSION, page 111)

## *Jacob G. Pfister Dies*

KANSAS CITY—Jacob G. Pfister, who retired as sales manager of the Midland division of International Milling Co. here in 1956, died Oct. 22 in a local hospital. He was 67. His retirement ended a career of 37 years in the flour milling industry.

## Russell Lindstrom Leaves Albers Milling

LOS ANGELES—Russell Lindstrom has resigned his position with Albers Milling Co., Los Angeles, division of the Carnation Co., announced G. A. Ensminger, vice president of feed sales for Albers.

Russell Lindstrom

Mr. Lindstrom has been with the company 10 years as managing feed nutritionist in Los Angeles. He will continue in the feed business with the Hill Milling Co. at Terraton, Idaho, and will spend a portion of his time managing family ranching interests in southern Idaho.

No decision has been reached on a replacement for Mr. Lindstrom, Mr. Ensminger said.

## SOYBEANS

(Continued from page 1)

for seed and wastage, adds up to a total of approximately 565 million bushels, which probably will be very close to the total supply of a new crop of 530 and a carryover of 50 million.

It must be remembered that of the carryover, 10 million bushels have been reported as re-sealed in farm storage, and USDA officials doubt that those beans will be available for sale unless the bean price compensates the farmer for a year's storage at 16¢ per bu.

• • •

## Correction Issued On USDA Document

WASHINGTON—The U.S. Department of Agriculture this week issued a correction to a statement put out in behalf of a minor USDA document called "Agricultural Outlook Digest," in which it said:

"Substitute the following for third paragraph in an earlier release:

"Strong foreign demand is likely to push exports (soybeans) in 1959-60 above last year's record of about 110 million bushels. Domestic crush and other uses are likely to be in the 430-435 million bushel range, about the same as last season."

In this connection it is urgent to point out that in another report (above) competent USDA officials have previously expressed doubt that the domestic crush would exceed 385 million.

The latter officials—which this paper quotes and are seen as those most familiar with the soybean domestic meal demand—take an entirely opposite view. Because of their competence in this field, it is believed that prudent persons should follow this latter judgment rather than the late correction to a report whose authorship cannot be identified with anyone of special competence in this field at USDA.

## *Killing Frost Ends Most Dehydrating*

KANSAS CITY—The alfalfa dehydrating season practically came to an end this week as killing frosts covered the Platte Valley of Nebraska and most of Kansas and Colorado.

The American Dehydrators Assn. bulletin of Oct. 21 reported that several Nebraska plants were down and others had only a few days on short shifts left. Kansas plants, the bulletin reported, may continue a little longer on limited operations. Oklahoma has enough hay for another month if there is no freezing weather.

It was forecast that there will be virtually no production east of the Rockies within the next week to 10 days.

## Problems Under Additive Law Pointed Out

COLLEGE STATION, TEXAS — Provisions of and industry problems under the food additive amendment to the U.S. food and drug law were outlined by Dr. K. B. Kerr of Dr. Salsbury's Laboratories, Charles City, Iowa, in a talk at the recent Texas Nutrition Conference at Texas A&M College.

Dr. Kerr pointed out that the purpose of the amendment is to check on the safety of additives for foods and feeds before they are used and that the burden of proof is on the manufacturer. He went on to explain the procedures required.

Feed men's attention also was called to the situation resulting from the Food and Drug Administration interpretation of the Belaney amendment to the food additive law—the clause which, under certain circumstances, has resulted in a status quo in the use of substances regarded as suspected carcinogens.

The "freeze" on certain medicated feed formulas was relaxed in August, Dr. Kerr pointed out, when FDA modified procedures in connection with supplemental new drug applications to permit "minor" changes in "new drug" medicated feeds without requiring supplemental applications. Under this policy, the way was opened for addition or substitution of antioxidants in poultry feed mixes (Feedstuffs, Sept. 19). And it was thought that some of the problems for industry would be cleared up.

**Still Not Clear**

However, said Dr. Kerr, the situation still is not entirely clear. As an example, he cited the case where a company applied to use a certain product at a newly built mill — a product which has been used in the same feeds at other plants of the same company — but was turned down.

Dr. Kerr said that the current government policy on estrogens and arsenicals has been taken on the basis of nothing new—nothing that was not in the literature before.

He also observed that, if the scientist is to try to show that something does not induce cancer, he is in the position of proving the negative.

The Delaney clause, he continued, was not a well considered clause. He pointed out how it creates a multiplicity of problems and that it ignores the amount of a substance and use. He noted, too, that such things as salt, sugar and vitamins can be shown to cause cancer.

Although the situation is not clear, there are guideposts to follow. And Dr. Kerr went on to explain the status of old drugs and new drugs and food additives under the current law. He indicated that it may be at least a number of months before there is any policy change.

In the future, he said, new feed additives probably will be subject to food additive control. This will depend on such things as how used, how long used, whether there is a residual in the tissue, rate of disappearance of a drug after withdrawal, etc.

Future products, it appears, will have to have a still greater margin of safety, which is a good thing.

At the same time, it was pointed out it will be more difficult to introduce new products.

**FIRM'S MANAGER DIES**

FILER, IDAHO—William M. Bunce, 78, manager of Filer Elevator and Colorado Milling Co. for 42 years, died Oct. 17. He came to Filer in 1909 and retired from active operation of the firm in 1954. Surviving are a daughter, a son, three grandchildren, a brother and two sisters.

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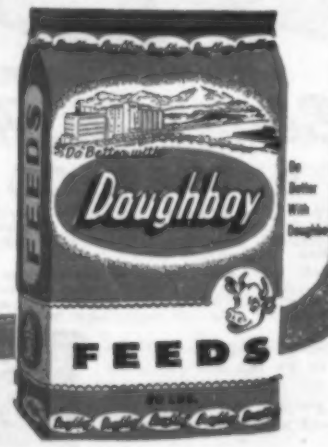


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# New Developments in Ruminant Nutrition Outlined at Texas

By ROGER BERGLUND
Feedstuffs Managing Editor

COLLEGE STATION, TEXAS — Much of the increasing information available on ruminant nutrition was brought into focus at the annual Texas Nutrition Conference at Texas A&M College. Talks by guest speakers plus a Texas scientist brought out the fact that, while there is still a good deal to be learned, continuing progress is being made and new opportunities are unfolding for better results in the feeding of beef cattle, dairy cattle and sheep.

More than 300 feed men were on hand to hear some of the latest research information on such things as bloat prevention, beef cow feeding, pelleting of ruminant rations, urinary calculi, dairy cattle nutrition and general progress in ruminant nutrition. A talk on cottonseed meal also was part of the conference, held Oct. 7-9. (Summaries of poultry nutrition talks appeared in the Oct. 17 issue of Feedstuffs.)

Some of the points brought out by speakers were these:

- New cottonseed meal developments are expected to make possible greater use of this protein supplement in poultry and swine as well as ruminant rations.
- Use of combinations of antibiotics and antibiotics in rotation shows promise in extending effects of antibiotics in bloat control.
- More emphasis needs to be put on rate of digestion in ruminant feeding. One should think not just about percent digestibility but intake and rate of digestion.
- Long-term studies suggest that low winter feed levels may not be detrimental to the mature beef cow providing summer feed conditions are good.
- Pelleting of high-roughage rations has shown benefits for fattening lambs and also shows promise for sheep other than fattening lambs.
- It looks as though, even when exact causes are unknown, one will not be able to prescribe a single prophylactic measure for urinary calculi.
- Among principal errors in dairy cow feeding are providing too little energy (most often the limiting factor in milk production), too much calcium and too little phosphorus.
- For beef cattle, pelleting of complete rations with more than 35 to 45% of concentrates appears to result in loss of benefits of pelleting from a practical standpoint.
- Good nutrition for the rumen microorganisms can be assured if current general recommendations for sound ruminant feeding are followed, including carbohydrates, protein and minerals.

Summaries of talks follow:

**PRESENT STATUS OF COTTONSEED MEAL AS A FEED SUPPLEMENT**—Dr. Richard A Phelps, National Cottonseed Products Assn., noted that cottonseed meal is an "excellent protein supplement" for mature ruminants, while some types of cottonseed meal must be restricted in rations of immature ruminants. He said that several problems in connection with limitations on use in poultry and swine rations have been overcome and that others are being studied.

Newer processing methods, said Dr. Phelps, have greatly increased use of cottonseed meal in poultry rations on the West Coast, and data indicate that production of meals with lower free and total gossypol will increase use of cottonseed meal in laying rations.

Use of cottonseed meal in broiler and turkey rations, he continued, has produced excellent results when properly supplemented with other protein sources. Amino acid balance, he noted, may be as important as gossypol content. Economic aspects rather than nutritional appear to be the limiting factor on use of cottonseed meal in broiler rations. Dr. Phelps cited information on such things as fiber content and lysine availability in connection with broiler rations. And he mentioned that some meals with low fiber and high protein are available. He concluded that up to 50 to 100% of soybean meal in broiler rations can be replaced with cottonseed meal.

In swine rations, the present status suggests that cottonseed meal as 25 to 40% of the crude protein percentage can be used if the free gossypol level does not exceed .04%. It is recommended that in the total diet the level not exceed .01%.

**TEXAS SPEAKERS—Speakers who dealt with large animal nutrition and other topics at the recent Texas Nutrition Conference at Texas A&M College are pictured here. Left to right are Dr. L. S. Pope, Oklahoma State University; Dr. R. A. Phelps, National Cottonseed Products Assn.; O. M. Ray, American Feed Manufacturers Assn.; Dr. N. L. Jacobson, Iowa State University; Dr. H. O. Kunkel, Texas A&M; I. L. Lindahl, U.S. Department of Agriculture; Dr. K. B. Kerr, Dr. Salsbury's Laboratories, and Dr. Orville Bentley, South Dakota State College.**

Dr. Phelps pointed out that very low levels of gossypol appear to stimulate growth in swine.

In both swine and poultry studies, he said, there has been some indication of a relationship between amount and quality of protein and cottonseed pigment toxicity. Lysine supplementation of swine rations has been reported to decrease toxicity from gossypol.

Dr. Phelps also told of some very recent Texas research in which supplementation of cottonseed meal with .3% lysine has resulted in very marked increases in gains. There were increases in daily gains on better quality meals as well as poorer quality meal.

**CAUSE AND PREVENTION OF BLOAT IN CATTLE**—Dr. N. L. Jacobson, Iowa State University, Ames, pointed out that there is no one method for prevention of bloat but that there are several possibilities. In two or three years, he said, there should be a series of recommendations from which producers can choose.

Dr. Jacobson presented extensive information on both pasture and feedlot bloat and discussed work on various preventive measures, including use of oils on pasture, on green-chopped forage or in grain fed to animals before they are turned out to pasture. Effects of oils on feedlot bloat are less clear than on pasture bloat. Feedlot bloat is more difficult to control than pasture bloat.

As Dr. Jacobson noted, some persons have suggested that soil low in phosphorus content is more likely to produce forage that will cause bloat and phosphorus fertilization has been suggested. However, Iowa experiments have demonstrated that bloat is not reduced by phosphate fertilization and that the various phosphorus components in the blood are higher in bloaters than in non-bloaters. Also, these components are higher in cattle when bloated than in the same animals when not bloated.

A number of antibiotics have been used with some success in pasture bloat control. The primary disadvantage of penicillin and other bloat-reducing antibiotics, said Dr. Jacobson, is that the effect is transient even though antibiotic feeding is continued. For short-term control, however, antibiotics have merit.

He noted that Iowa State has tried combinations of antibiotics and antibiotics in rotation in order to extend the effects. Use of combinations has extended the control period beyond that of an additive effect. When they are used in rotation, there is an effect from each.

These methods look very promising, Dr. Jacobson said, and researchers need to examine combinations and the rotation system more thoroughly. There may be other ways to extend antibiotic effectiveness also.

**PROGRESS IN RUMINANT NUTRITION**—Several aspects of ruminant nutrition were covered by Dr. Orville G. Bentley, formerly at Ohio State University and now dean of agriculture at South Dakota State College.

For one thing, he cited work on results from hormones in naturally occurring feeds. This includes evidence of a decreasing response from stilbestrol as the level of dehydrated alfalfa is increased.

The role of volatile fatty acids also was discussed, and Dr. Bentley cited research indicating that proportions of volatile fatty acids can be altered by diet changes, bringing certain effects in production.

Dr. Bentley went on to cover work on the measurement of digestibility of forages. In this connection, lignification, which reduces digestibility, was mentioned.

Dr. Bentley put special emphasis on rate of digestion and noted that one should think not just about percent digestibility but about intake and rate of digestion.

"Only the TDN over the amount required for maintenance goes for production," he pointed out. "Hence, factors influencing feed intake and rate of digestion, such as palatability, roughage quality, level of microbial activity in the rumen, pelleting of certain roughages, supplementation with protein, trace minerals or such materials as molasses, can affect efficiency of feed conversion. It would seem that rate of digestion, if reflected in increased feed intake, is a most important factor in deciding whether a ration is used efficiently. This statement can only be made on the assumption that the percent digestibility of ration components is maintained at a high level. In other words, if animals eat more feed, increased feed efficiency can be expected."

In relation to intake, Dr. Bentley pointed out that pelleting increases rate of digestion, making it possible to increase intake in a particular period.

He mentioned several points in summary: (1) Adequate protein is important. (2) Minerals are needed —requirements are well known from a practical point of view. (3) Enough energy is needed to get proper growth—too many producers do not provide enough. (4) Because of carryover effects, concern about vitamins A and D need not be so great as formerly though. (5) Estrogens will continue to be important. (6) No general recommendations can be made on thyroid depressants at this time. (7) More work is needed on vitamin information. (8) Various fundamental problems have to be solved before enzymes can be used to the maximum; it is necessary, for one thing, to be sure that activity is maintained. (9) Land management is important. (10) Roughage quality is

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**ARKANSAS FORMULA FEED CONFERENCE—Informal trade talk was in order during the recent Arkansas Formula Feed Conference at the University of Arkansas, Fayetteville. Conversationalists in the first picture are (from left): Dick Kendrick, Tyson's Feed & Hatchery, Springdale; Ford Buckner, Peterson Produce Co., Decatur, and Collier Wenderoth, O. K. Feed Mills, Ft. Smith. The second photo shows Dr. H. W. Sawyer (left), Hot Springs, General Mills, Inc., exchanging comments with Ted Darragh, the Darragh Co., Little Rock. Out-of-state speakers (third picture) on the conference program included (from left): Dr. D. E. Becker, University of Illinois; Dr. Wid Crawford, Chas. Pfizer & Co., Inc., Terre Haute, Ind.; Dr. R. H. Harms, University of Florida; Dr. J. H. Quisenberry, Texas A&M College; Dr. T. T. Milby, General Mills, Inc., Indianola, Iowa; K. N. Wright, A. E. Staley Manufacturing Co., Decatur, Ill., and C. N Hultberg, California Pellet Mill Co., Crawfordville, Ind.**

an important factor. (11) The consumer wants leanness and tenderness in beef.

**RECENT DEVELOPMENTS IN NUTRITION AND MANAGEMENT OF BEEF COWS AND THEIR CALVES**—Studies with supplemental feeds for the cow herd and methods of management have indicated that basically, protein is the first limiting factor in weathered range grass in the Southwest, said Dr. L. S. Pope of Oklahoma State University. He said other considerations in the formulation of a range supplement seem to be of minor importance.

Preliminary results in long-term studies suggest that low winter feed levels, while severe for the young, growing heifer, may not be detrimental to the mature cow in terms of percent calf crop, weaning weight of life span, providing summer feed conditions are such that recovery is possible. Fall-calving cows are more sensitive to winter feed supply.

Dr. Pope said that supplementing or treating the calf directly appears advantageous, except where feed costs are prohibitive as may often be the case with creep feeding.

The response to antibiotics may depend largely on management conditions, while stilbestrol gives a more consistent response in terms of weight gains.

**PELLETING AND ROUGHAGE UTILIZATION BY SHEEP**—Ivan L. Lindahl, U.S. Department of Agriculture, Beltsville, Md., reviewed information on use of pellets in lamb feeding. And he noted that even more significant than increased gains and feed efficiency from pelleting have been reports that high roughage pellets are more efficient than low roughage pellets and that lambs can be fattened successfully on alfalfa hay pellets as the sole diet. This means, he said, that lamb feeding operations can be shifted from areas of high grain production such as the Corn Belt to areas of high roughage

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**PANEL—Panelists at a Vigorena feed dealer meeting staged by the Springfield (Minn.) Milling Corp. gathered for this side discussion. From the left are: Panel moderator Cecil B. Femling, sales manager for Vigorena; Dr. Milo Swanson, poultry husbandry department, University of Minnesota; Leo Baumgartner, secretary, Minnesota Poultry Assn.; Arthur Gibbs, James Manufacturing Co.; and Emmet J. Hoffman, The Miller Publishing Co. About 40 dealers, most of whom are hatcherymen, attended the one-day sales and feed information conference. Other company representatives on the program were T. T. Helleloid, manager, and Ron Johnson, nutritionist.**

production such as irrigated regions of the West.

Mr. Lindahl went on to discuss the effect of pelleting on digestibility and feed consumption, use of pellets for sheep other than fattening lambs and work on long term effects of pellet feeding.

He summarized his report as follows:

Pelleting of feeds for fattening lambs has generally increased the rate of gain and increased feed efficiency. High roughage mixtures not only can be used to fatten lambs but the high roughage pellets also appear to yield better results than high concentrate mixtures.

Pelleting has little effect on digestibility of feeds but appears to increase the rate of digestion and to increase feed consumption.

Pelleting offers promise as a method of reducing feed requirements for pregnant and lactating ewes and can be either used to increase rate of gain of replacement stock or as a means of reducing feed requirements.

The feeding of pellets as a sole diet over extended periods of time appears to influence development of the digestive tract and possibly some other organs, but data is too limited to date to draw conclusions regarding the practical significance of these changes.

**URINARY CALCULI** — There is not consistent evidence that certain factors operating together or separately are always responsible for development of urinary calculi in ruminants, said Dr. H. O. Kunkel of Texas A&M in reviewing information on this widespread problem. Therefore, it seems unlikely that, even when the exact causes become known, one will be able to prescribe a single prophylactic measure.

Based on present information, the following measures are suggested for minimizing losses from urinary calculi:

(1) Adequate water supply should be available under all conditions. (2) High phosphorus containing feeds should be held to a minimum in feeding male ruminants or steers or wethers being fed a long period of time. (3) If high phosphorus feeds must be fed, include a mildly diuretic material in feedlot rations. Alfalfa and perhaps other legumes are mildly diuretic as well as being sources of a higher level of calcium (for balancing an excess of phosphorus) and carotene (for vitamin A). Urea and common salt might be included. Caution is made that the agent is not added in quantities to reduce feed consumption. (4) Avoid excessive administration of estrogenic substances; high levels stimulate calculi. (5) Include a small amount of ammonium chloride in the diet to cause a lower alkalinity in the urine; 3 oz. per day is used with cattle, .6 oz. with sheep. (6) Avoid use of feeds high in silica. Silica has often been found in the center of calculi formations.

**MEETING THE REAL NUTRITIVE NEEDS OF DAIRY CATTLE** —The nutritional factor which most often limits milk production is an inadequate supply of energy, Dr. N. L. Jacobson emphasized in a second talk. Total needs for energy, protein and minerals increase markedly (above maintenance needs) by production of even a modest amount of milk. Too often, however, it is assumed that the first nutrients to become deficient are protein and cer-


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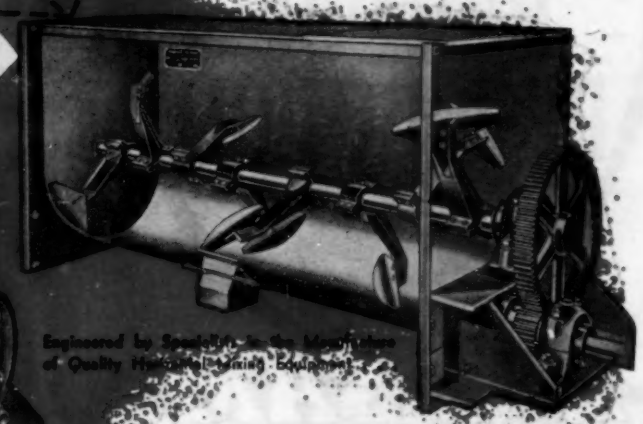

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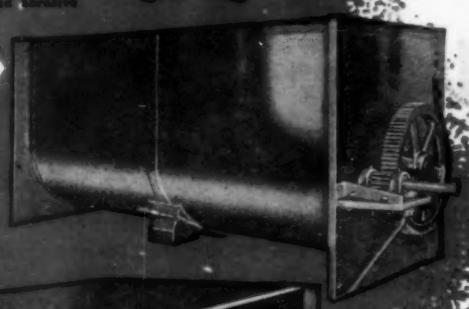

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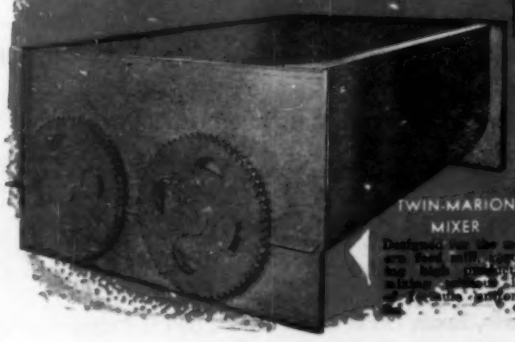

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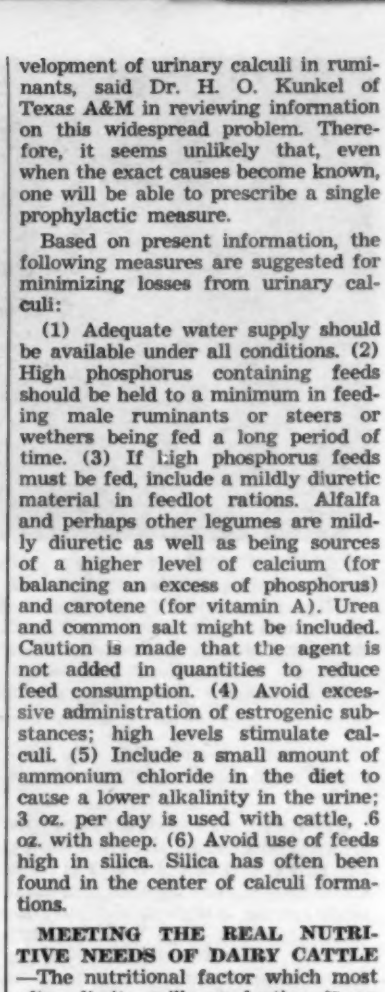


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tain minerals. Sometimes these and some vitamins are in short supply, but most often energy is the limiting factor.

Usually the cow does not have enough capacity to consume enough forage to permit maximum production, and thus concentrate feeding is desirable in most cases.

Dr. Jacobson noted that when a medium-size cow is fed high quality alfalfa hay free choice, she will get only enough energy (above maintenance needs) to produce about 35 lb. of milk. In contrast, the phosphorus supplied by the hay will be sufficient for 50 lb. of milk, the protein for 80 lb. and the calcium for 250 lb. The concentrate mixture for such an animal should be high in energy, but it is not necessary to add high protein ingredients, calcium and phosphorus. If half of the alfalfa is replaced by corn or sorghum silage, the energy supply will still limit milk production. Therefore, the main function of the concentrate should be to supplement the energy supply. When only poor quality forage is fed, many nutrients may be supplied in inadequate amounts and concentrates are needed to correct deficiencies.

Dr. Jacobson said that probably the most common error in mineral supplementation is to supply too much calcium in proportion to phosphorus. Normally the calcium content of the supplement should be no more than twice the phosphorus content.

Principal errors in dairy feeding, he indicated, are providing too little energy, use of poor quality forage, too much calcium and too little phosphorus, too much attention to number of ingredients and ingredients of no value, and too little "management."

Dr. Jacobson also discussed calf and heifer feeding. Regarding the latter, he pointed out that underfeeding decreases rate of maturity, delays sexual maturity, may delay first calving and increases difficulty at first calving. Feeding at a low plane, however, extends productive life of the animal. Over-feeding increases rate of maturity, reduces length of life, retards proper udder development, and may reduce production, especially after the first lactation.

**PELLETING GRAINS AND MIXTURES VARYING IN CONCENTRATE-TO-ROUGHAGE RATIOS FOR BEEF CALVES** — Dr. L. S. Pope, in a second talk, discussed Oklahoma and other research on pelleting of grains alone and pelleting of complete rations.

The fattening trials with steer calves, he said, indicate that the response from pelleting may vary with different grains. Fine grinding and pelleting milo gave a beneficial response, while barley tended to decline in feeding value due to pelleting. Whether or not differences between grains also affect the response obtained from pelleting complete mixtures is not known, Dr. Pope said.

Discussing complete mixtures for cattle, Dr. Pope said that the effects of pelleting tend to disappear as the concentrate-roughage ratio is increased. While improving performance on a 1:4 concentrate-roughage ratio fed fattening steer calves, pelleting caused a depression in rate of gain and feed efficiency of calves fed a 4:1 mixture. An explanation of these effects must await further research.

Dr. Pope also cited other research in concentrate-roughage ratios indicating a tendency toward reduced performance due to pelleting a highly concentrated ration. He mentioned, too, that in some research a certain level of coarse roughage has been necessary when fattening rations for ruminants are fed in pelleted form.

In summarizing the ratio studies, Dr. Pope said that to pellet rations with more than 35 to 45% of concentrates results in loss of benefits of pelleting from a practical standpoint.

Commenting on reasons for the response from pelleting, Dr. Pope said that it may be just a question of increased feed intake, although possibly chemical and physical factors are included, too.

Dr. Pope mentioned data indicating lower digestibility of cellulose in pelleted grass; this may be explained by a shorter stay in the rumen. However, there is less loss in heat, etc.

In connection with Oklahoma work on ratios, he cited data indicating the possibility of producing a rapid rate of gain but lower carcass fatness with a high-roughage pellet.

By feed processing, he said, a relatively poor feed mixture may be made equal to a much higher grain mix fed in meal form, at least in terms of rate of gain.

**NUTRITIONAL REQUIREMENTS OF RUMEN MICROORGANISMS**— Dr. Orville G. Bentley, in a second talk, devoted considerable attention to artificial rumen studies and nutrient requirements of rumen organisms as indicated by these studies, with an explanation of the practical significance of such work.

Good nutrition for the rumen flora, he said, can be assured if the current recommendations for sound ruminant feeding are followed. Nitrogen (protein), energy sources such as cellulose (fiber), starch and minerals are the broad categories of nutrients required. All these nutrients are present in adequate amounts in good quality roughage feeds, protein concentrates, grains and mineral supplements commonly fed cattle today.

Regarding growth factors for rumen organisms, he said experimental data available to date suggest that if a ration contains carbohydrates, protein and minerals supplied from a combination of groups of feedstuffs supplying these various nutrients, the rumen flora will synthesize the growth factors.

In commenting on the work on digestibility, Dr. Bentley said that fine grinding and pelleting reduce cellulose digestibility, but feed intake is increased by pelleting.

## Ripco Appoints Texas Sales Representative

OXFORD, PA.—Ripco, Inc., Oxford, has announced the appointment of Brice Sales & Service, Houston, Texas, to handle Ripco's air systems.

Jerry Brice, owner of the Houston firm, and his associates, Thomas Marshall and Robert Cabiness, will be covering the entire eastern section of Texas.

Another appointment to represent Ripco in the Panhandle area of Texas is the Panhandle Steel Buildings Co. at Amarillo.

Both representing firms will handle the complete line of Ripco air systems, including pneumatic bulk feed and granular material handling equipment, and accessories and service for the present equipment now in use in the areas.

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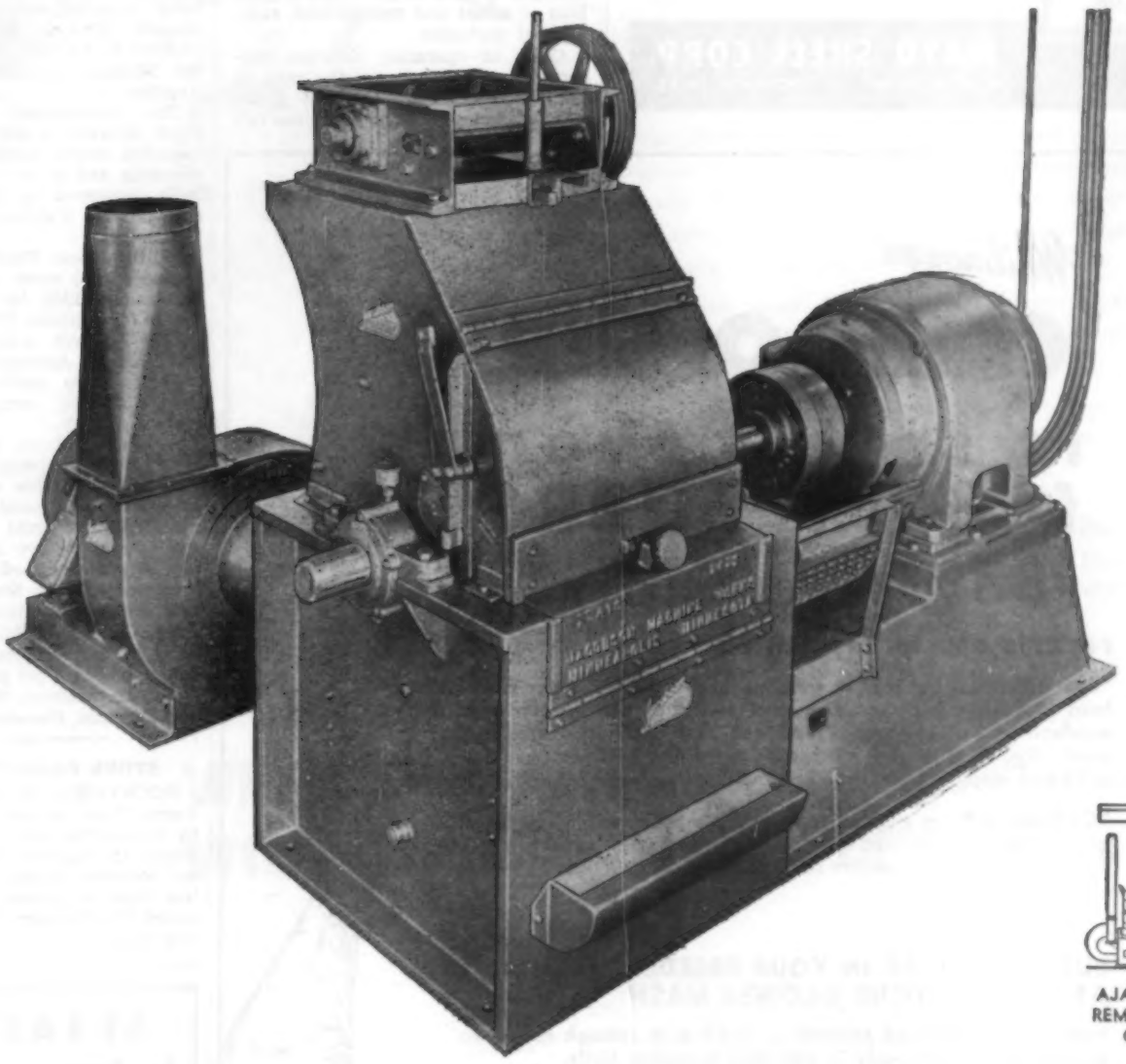

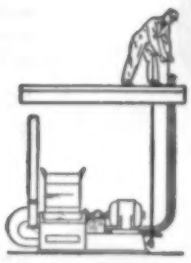

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## Aeration Study Is Reported by USDA

WASHINGTON — Aerating stored grain early in the fall to bring grain temperatures down near the average temperature of the outside air helps prevent insect activity and spoilage in wheat and corn, according to information from grain aeration tests in the Corn Belt given in a report issued recently by the U.S. Department of Agriculture.

Researchers in USDA's Agricultural Marketing Service conducted the tests in Iowa and Indiana. The tests in Iowa included nine deep bins of shelled corn; those in Indiana included five flat and two tank-type storages of shelled corn, seven deep bins of wheat and two oil-tank storages of soybeans.

Costs of operating aeration systems depend largely on the rate of airflow, depth and kind of grain aerated and number of hours the fan is operated, according to the researchers. Typical operation costs vary from 1/20¢ bu. for aerating shelled corn in a flat storage to 1/5¢ bu. for aerating wheat in deep bins.

A free copy of the report, "Operating Grain Aeration Systems in the Corn Belt," Marketing Research Report No. 337, may be obtained from the Office of Information, USDA, Washington 25, D.C.

## GMI to Make Dietary Protein Concentrate

MINNEAPOLIS — A dietary protein concentrate for human consumption will be manufactured and marketed by General Mills, Inc., effective Dec. 1, it has been announced jointly by Sewall D. Andrews, Jr., vice president and general manager, GMI oilseeds division, Minneapolis, and Clifford E. Clinton, president, Meals for Millions Foundation, Inc., Los Angeles.

The concentrate, Multi-Purpose Food, provides a low-cost source of essential amino acids, vitamins and minerals, and is the "3¢ meal" originally developed by Dr. Henry Borsook at the California Institute of Technology.

Multi-Purpose Food has been introduced into more than 100 countries since 1946 by the non-profit Meals for Millions Foundation. General Mills will make the product available to Americans, introducing it initially to institutions, schools, relief agencies, camps and restaurants.

According to the joint announcement, the arrangement entered into with General Mills will enable the foundation to expand its world-wide educational program, using MPF as an example of "how dietary deficiencies of malnourished people can be corrected through the application of 20th century food technology."

Two ounces of MPF provide one third of the recommended daily dietary allowance for protein, vitamins A and D, thiamine, riboflavin, niacin, iron, calcium, phosphorus and iodine.

### STORE CHANGES HANDS

ROCKFORD, WASH.—The Tekoa Farm Store is now being operated by Vernon McCormack, who has purchased the business from Neil Pierce and Norman Hansen. Mr. McCormack has been associated with the Associated Pea Growers for the past several years.


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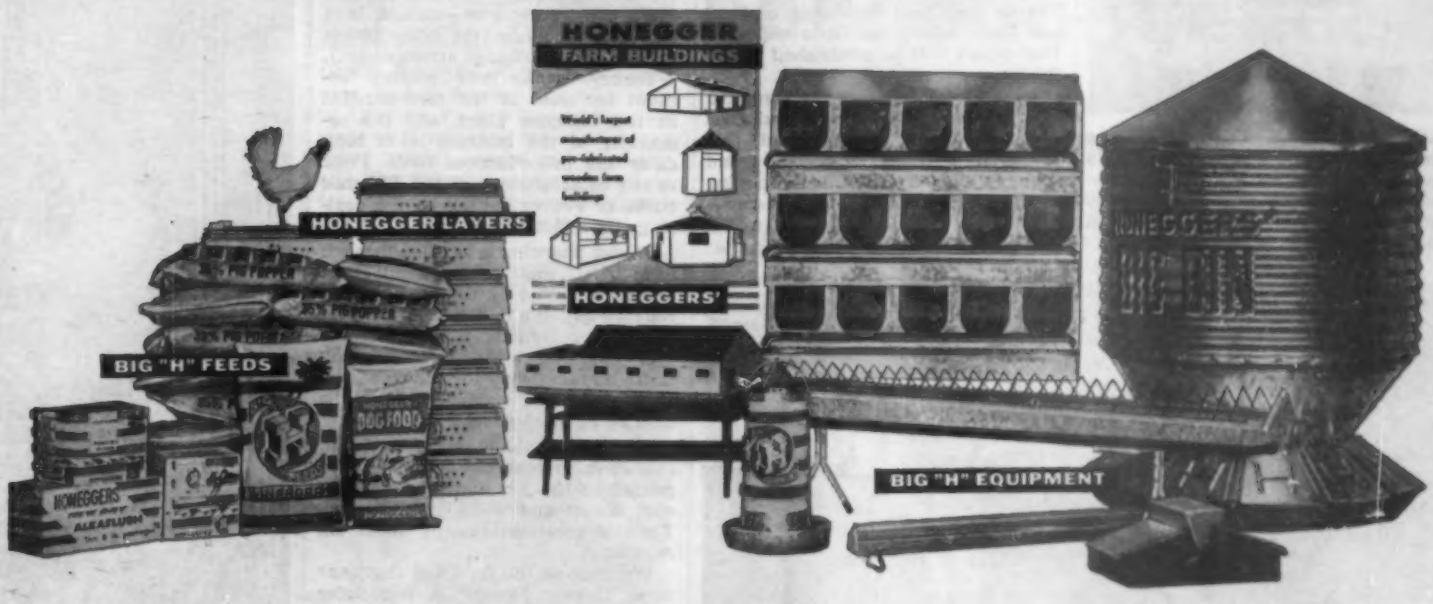


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'New Look' in Feed Service

# Minnesota Feed Man Opens New Bulk Blending Plant

By FRED TUNKS
Feedstuffs Staff

Towering 75 ft. above the surrounding area in the western Minnesota community of Montevideo is a new gleaming white feed plant. The all-concrete structure and its adjoining steel tanks present a striking picture, but in concept as well as appearance, this operation is called the "new look"—the "new look" in feed service as provided by a locally-owned and operated business affiliated with a larger feed manufacturer.

The new mill is that of the Lillemoe Feed & Supply Co., a franchised dealer for Peavey Feed Mills of Minneapolis and also a manufacturer of its own brand of feeds, using Peavey premixes and concentrates.

The mill, called a bulk blending plant, is a nearly all-bulk operation with a capacity of approximately 100 tons of feed per 10-hour day. Concentrates and premixes from Peavey's Minneapolis mill, as well as local grains and in some cases protein, are received and handled in bulk. And it is expected that 90% or more of the finished feed will go out in bulk.

LOADING BULK TRUCK—After driving bulk feed delivery truck into position in load-out driveway, employee of Lillemoe Feed & Supply Co. gets truck ready for receiving feed from overhead bins.

Pellets and crumbles as well as mash feeds are produced at the plant on either a custom basis or as registered branded feeds.

The entire operation is handled by only three men—the owner and manager, O. C. (Oz) Lillemoe; a mill operator, and a truck driver.

This efficiency, Mr. Lillemoe said, is made possible by the extensive bulk storage and handling facilities and the centralized control systems for ready control of all operations.

In addition to the bulk storage and work bins which already are a part of the mill, Mr. Lillemoe is planning to add flat storage which will be used in connection with a grain bank service.

Along with the feed business, the firm will offer farm supplies such as livestock and poultry remedies, farm hardware, fertilizer and agricultural chemicals.

The owner and manager of the new business, Mr. Lillemoe, has a broad background in the grain and feed business. He formerly managed elevators, and from 1954 to 1958 he was manager of the McCabe Co.'s feed plant in Montevideo.

### Assistance from Peavey

In planning and arranging for his new "super feed service" plant, Mr. Lillemoe had extensive help from Peavey Feed Mills. Peavey helped in the arrangements for the plant financing, which was obtained through local banks. Assistance also was provided in connection with the mill planning, and Peavey experts have helped in the initial and continuing sales promotion.

For Peavey—which serves Minnesota and parts of several surrounding states — the new Montevideo bulk blending plant is the first dealer outlet of this type, with its extensive facilities for both distributing and manufacturing feeds. Plans for a similar locally owned plant affiliated with Peavey have been announced at Fergus Falls, Minn., and it is expected that others will be established in the future.

Mr. Lillemoe handles the complete line of Peavey Tone feeds and does custom grinding, mixing and pelleting. In addition, he registers and makes a number of the faster moving feeds under his own brand name—Ra-Jon (a name derived from the names of his two teen-age sons, Ra-

"NEW LOOK" IN FEED SERVICE—Recently completed at Montevideo, Minn., is this new Lillemoe Feed & Supply Co. feed manufacturing plant. The mill is of all-concrete construction, as is the office and sales room (foreground) and warehouse (out of sight behind office and to the right of mill). O. C. Lillemoe, owner and manager, is a franchised dealer for Peavey Feed Mills of Minneapolis and a manufacturer of his own brand of feeds, using Peavey premixes and concentrates.

leigh and Jon). His "Ra-Jon Tone Mix" feeds are formulated and certified by the Peavey research and product control departments. Most of these feeds are made by using Peavey concentrates combined with grains purchased and processed locally. Also, on certain feeds, Mr. Lillemoe uses Peavey premixes or supplements and then combines them with his own oilseed meal as well as grain.

The Lillemoe firm offers the conventional grinding, mixing and pelleting service, adding concentrates to the farmer's own grain. In addition, however, Mr. Lillemoe is putting particular emphasis on an exchange arrangement under which the farmer exchanges his grain for complete Ra-Jon feeds already made up. The farmer turns in a certain amount of grain, pays an exchange charge which covers the supplement and mill service and receives a complete feed. Or, if he has sufficient grain, the farmer can simply exchange grain for complete feed based on prevailing prices for each.

Prices of the Ra-Jon feeds are listed in three categories—sacked, bulk and bulk exchange (the latter covering the grain exchange arrangement).

Turkey, swine and poultry account for most of the feed handled at the Lillemoe plant, and the remainder of the business is in beef, dairy and miscellaneous feeds. Prior to the establishment of the Lillemoe business, Peavey did not have a dealer in the Montevideo area.

Feeder financing is handled through local banks and Peavey Feed Mills. The area served by the new plant is roughly within a radius of 20 miles of Montevideo. In addition to serving his own customers, Mr. Lillemoe may make certain feeds for other nearby Peavey dealers, particularly in the case of pelleted feeds.

The mill building is of pre-cast, post-stressed concrete. Footings were poured on the job, and then the pre-cast beams and walls were erected. Time of construction was about six months.

Working on the design of the plant were Thomas Hanson & Associates of Minneapolis, Peavey engineers and the contractor, Weigel & Duhoux Construction Co., Inc., Willmar, Minn.

The over-all dimensions of the building are 69 ft. in width and 54 ft. deep. Immediately in front of the building is a 50-ft., 50-ton truck scale. The office area is 18 by 42 ft., including the display area, sales counter, private office and washroom. Behind the office are two covered driveways. The first driveway is for incoming trucks and has two pits to receive grain or other ingredients. The second driveway is for load-out of bulk feeds (by gravity from bins above). One of the sacked feed warehouse doors also opens onto this driveway. Behind the driveway are the 24 by 24 ft. mill section and the 45 by 24 ft. warehouse.

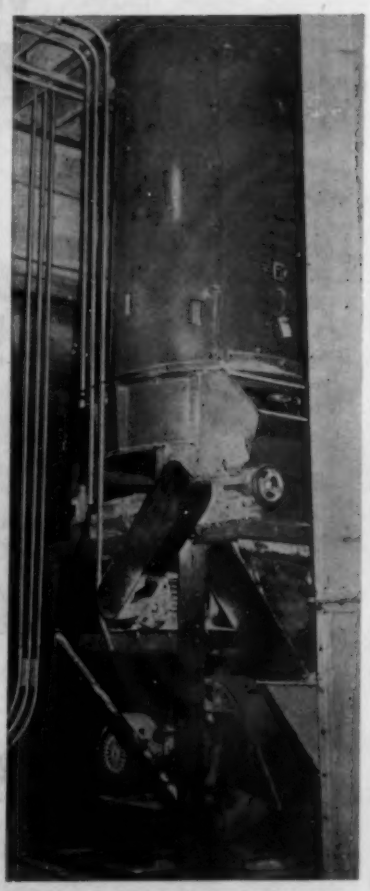
### Equipment Described

There are 29 internal holding bins for mixes and ingredients, with a total capacity of some 100 tons, above the mill section and load-out driveway. These are concrete bins with steel hopper bottoms. In addition, just adjacent to the plant, there are eight 28-ton bolted steel Butler tanks for grains and fast-moving concentrates.

Three Howell elevator legs are used to elevate incoming materials and materials in process. Roto-flow distributors controlled from the work floor direct the flow of materials into the various bins.

Concentrates and supplements

HANDY CONTROLS—Controls in new feed plant are centrally located. Here, O. C. Lillemoe operates hammermill screen change controls on main work floor. To the left and right, on either side of 40 h.p. Sprout-Waldron pellet mill are controls for grinding, pelleting, materials flow and other operations.



COOLER, CRUMBLE ROLL — Rotaire cooler in basement of Lillemoe bulk feed blending plant cools and dries pellets. Crumbles are made with Sprout-Waldron crumble roll beneath cooler.

**BATCHING—John Pray, mill operator, pulls levers to open Roto-valves on ingredient bins above Fairbanks-Morse hopper scale.**

**OVER THE COUNTER—Reviewing the planning that went into the construction of the new Lillemoe feed plant at Montevideo, Minn., are O. C. (Oz) Lillemoe (left) and Roy Weigel, Weigel & Duhoux Construction Co., Inc., Willmar, Minn. Outside the office building and behind Mr. Lillemoe is a 50-ft., 50-ton truck scale.**

made in Peavey's Minneapolis mill are shipped to Montevideo by bulk hopper cars. The cars are unloaded from a track spur alongside the rear of the mill into a pit, and the material is moved into the mill with a Dracon drag conveyor and then elevated to the bins or tanks.

The incoming driveway, which is equipped with a Ford floor truck hoist, has two dump pits. One pit is primarily for receiving ear corn and cobs, and a 14-in. Howell screw conveyor moves the material directly from this pit to the 100 h.p. Jacobson hammermill. Grain and concentrates received in the other pit are conveyed into the mill with a Dracon conveyor and then elevated. A Dracon conveyor also is used to convey materials from the outside steel tanks into the mill.

Bulk concentrates, premixes, ground grain and soybean meal for mixing are weighed from nine bins into a Fairbanks-Morse hopper scale. The scale dial is adjacent to the scale hopper, and the mill operator weighs out a batch by using levers which open the Roto-valves used as gates on the bins. When a batch is complete, it is dumped into a 2-ton Howell horizontal mixer beneath the scale. Where required, premixes also may be added by hand. The mixed feed is elevated to bins for bulk load-out, sacking or further processing.

Pellets are made in a 40 h.p.

**OPEN HOUSE—While visitors look over displays in office and sales room of Lillemoe Feed & Supply Co. feed plant at Montevideo, Minn., O. C. Lillemoe (right), owner and manager, and Ken Schmitt, territory manager for Peavey Feed Mills, check samples of Ra-Jon and Tone feeds.**

**COVERED DRIVEWAYS—Driveway at left is for incoming trucks. Two pits (background) receive grain and other ingredients. In foreground is Ford floor truck hoist, which can be moved back and forth on tracks. At right is driveway for load-out of bulk feeds by gravity from bins above. One of the sacked feed warehouse doors (extreme right) opens onto this driveway.**

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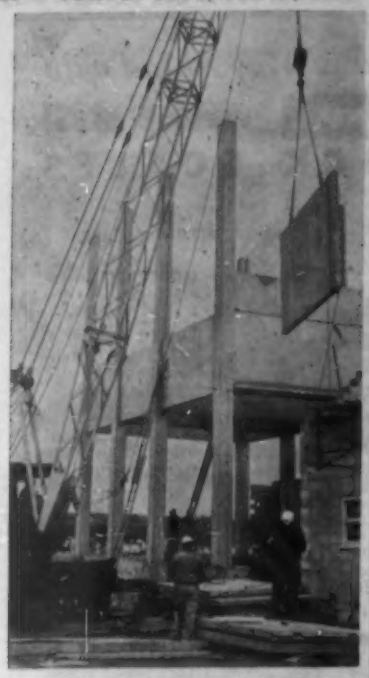


**ERECTION—Crane lifts pre-cast, post-stressed concrete sections into place during six-month construction of Lillemoe Feed & Supply Co. plant. Footings were poured on the job. Then the pre-cast beams and walls were erected.**

Sprout-Waldron pellet mill located on the work floor. This is operated at a rate of 4-4½ tons per hour. A Rotaire cooler in the basement cools and dries the pellets, and crumbles are made with a Sprout-Waldron crumble roll beneath the cooler. Steam for pelleting is produced by a Cyclo-Therm generator.

Mr. Lillemoe uses a die of just one size—3/16-in.—in making pellets. He indicates that he has had no problems with the high-grain complete pellets which he makes, and he attributes the success to formulation.

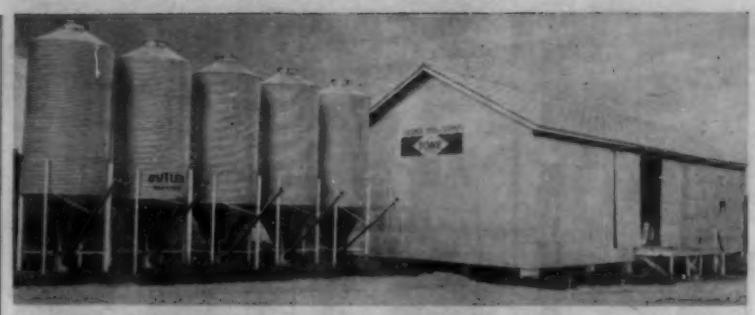
Other equipment in the mill includes a Howell scalper, a Howe Snappy Shaker to remove fines from pellets and an Eriez Hi-Power magnetic system to keep metal out of the grinding, mixing and pelleting facilities. The screw which conveys ear corn directly from the truck dump pit to the hammermill shuts off automatically when the mill is overloaded.

The basement areas beneath the office, driveways and mill section house storage space, electrical switches, steam boiler, hammermill, mixer and pellet cooler and crumblizer.

**HAMMERMILL—Howell screw conveyor (right, top) moves ear corn and cobs from pit into 100 h.p. Jacobson hammermill.**

### Convenient Controls

The plant facilities are such that a minimum of labor is needed to operate the mill, and all controls, including hammermill screen change and electrical controls are centrally located. The electrical controls for grinding and mixing are in one convenient location, and controls for the pelleting operations are in another spot. The mill operator can handle the bulk proportioning and mixing and also take care of grinding, pelleting, materials flow and other operations.



**WAREHOUSE—While new plant was under construction early this year, O. C. Lillemoe operated his feed business out of this building, an old hay barn converted into a metal-clad warehouse. At near end are bulk bins used during the construction period.**

The Peavey and Ra-Jon feeds that are sacked are kept in the warehouse adjacent to the mill section. However, most of the feed that is delivered goes out in bulk in a 7-ton Pak-Master bulk truck. In this connection, Mr. Lillemoe mentioned an increasing trend toward use of complete livestock feeds delivered in bulk directly into the feeders.

Except for sacked feeds, Mr. Lillemoe needs to maintain only a small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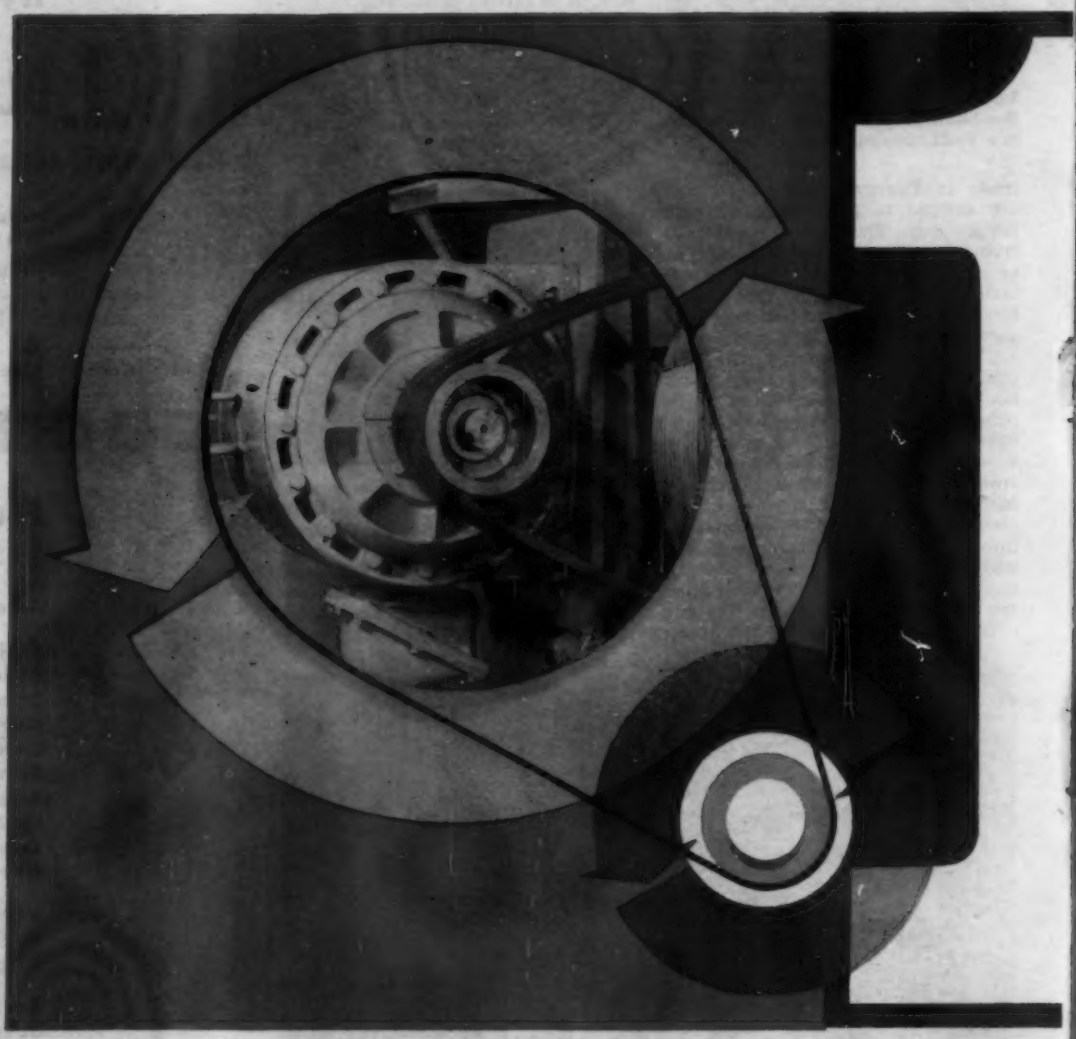
**SPROUT-WALDRON PELLET MILL SUPERIORITY**



JB/113 P

inventory in the bins, for most of the bulk feed is made up as ordered.

Commenting on the efficiency attained with the design and equipment that is used, Mr. Lillemoe pointed out that "in running a feed mill, there is only one cost over which you have direct control, and that is labor. That's why we wanted a mill as efficient and yet practical as possible—we wanted to hold down on labor costs."

He observed that the concrete construction is important in his thinking because of such things as maintenance, durability and more favorable insurance rates.

Mr. Lillemoe charges 10¢ cwt. for grinding, 5¢ cwt. for mixing and $3 cwt. for pelleting.

Ra-Jon Tone Mix feeds include these: 15% layer mash, 20% egg mash, 17% chick grower, 20% medicated chick starter, 20% turkey broiler finisher, 20% and 22% turkey grower, 16% and 18% turkey finisher, 14% and 16% pig grower and 12% hog finisher.

John Pray, who has had 10 years of experience, is Mr. Lillemoe's mill operator. Ben Schneider drives the plant's bulk truck. Both men are former McCabe Co. employees who joined Mr. Lillemoe when he opened his business in the Montevideo Sales Co. building, which is near the new plant. Lillemoe Feed & Supply Co. was operated out of that building for a couple of months until construction was started in February on the new mill. While it was going up, Mr. Lillemoe converted an old hay barn into a feed warehouse and erected five bulk bins at one end. In the six months the new mill was being built, Mr. Lillemoe's temporary facilities turned out feed sales of $90,000. The old hay barn, which was weatherproofed with metal siding, still is used as a warehouse.

Mr. Lillemoe said his new mill "is geared to feeders, both livestock and poultry men, who are converting their farming operations to bulk feeding." And he added, "Bulk delivery of our ingredients permits us to supply feed at a low cost as well as providing better service to area feeders. With the plant designed as a farm service center, each piece of equipment works for the benefit of the customer."

**"Seven Customers at a Time"**

Even though only three men are needed to operate the plant and bulk delivery service, Mr. Lillemoe said his staff is large enough to handle seven customers at a time. He theorized that one customer could be weighing his incoming grain, a second farmer might be having his grain dumped, a third could be receiving his mixed feed, a fourth might be watching the mixing of his feed, a fifth could be having his feed sacked, a sixth might be in the office paying his bill and a seventh could be giving his feed order over the counter.

To make sure that all farmers in the area surrounding Montevideo knew about the recent open house at the new Lillemoe plant, six Peavey territory managers were assigned to help Ken Schmitt, sales manager for the territory which includes Montevideo, spread the word by personally calling at farms during a three-day "blitz." Primary purpose for the calls was to invite the farmers to the open house and to let them know that Mr. Lillemoe's new plant was in operation and ready for business.

**SACK STORAGE — Inside concrete warehouse behind loading area, O. C. Lillemoe and his younger son, Jon, stand with sacks of Ra-Jon Tone feeds. The Ra-Jon brand was derived from the names of Jon and his brother, Raleigh.**

Salesmen said farmers received them well and most of them indicated they would attend the open house. Some placed orders for feed. It was thought by several territory managers that because many feeders in the area already knew Mr. Lillemoe it was easy for them to "break the ice" during their farm visits.

Mr. Lillemoe has become acquainted with a large number of farmers in the Montevideo area through his activity in church and civic affairs. He is a Lions Club vice president, a member of the school board, an officer of his church, a former Scoutmaster and a director of the Chamber of Commerce and Montevideo Baseball Assn.

**Big Crowd at Open House**

The three-day "blitz" and other pre-opening promotions apparently were effective. Mr. Lillemoe reported that an estimated 1,850 persons, most of them farmers, visited the new plant during the two-day open house.

On-the-farm sales contacts in the future will be made by Mr. Lillemoe himself and by his bulk truck driver.

While the new mill was under construction, Mr. Lillemoe attracted the attention of farmers with a "live exhibit program." In actual demonstrations of comparative feeding methods, he fed a pen of pigs near his plant and a small flock of chickens at another location. He has promoted the practice of weaning pigs at three weeks of age.

Mr. Lillemoe has another idea which will help keep his feed and farm store services in the minds of present and potential customers. He plans to have the big, colorful signs on the sides of the plant's tower flooded with light at night.

IS FIRMLY BASED ON CREATIVE ENGINEERING

1st with revolving die covers and feed directing flights!

The use of revolving die covers with welded flights contributes to the rigid support of the die and directs the feed more efficiently into the pelleting area. The stationary spreader bars attached to the roller assembly assure that each roller will get an equal amount of incoming material. These two Sprout-Waldron "firsts" mean more tons per horsepower hour and more uniform wear on rolls and dies.

Sprout-Waldron leadership in pellet mill design has continued unbroken through the years. *Among the many firsts attributed to our creative engineering are: the concept of vertical ring and driven dies, the scientific introduction of steam at high temperatures, the use of simple V-belt drives as opposed to complicated gear trains, the swinghead die casing, the air handling of pellets from the mill, Ruftex tungsten carbide roll construction, stainless steel feeder conditioners, cooling columns with stainless steel interiors, and the design of auxiliary cooling, crumbling and grading equipment matched to the capacity of the pellet mill.*

In test after test, Sprout-Waldron pellet mills have out-produced in tons per horsepower every competitive mill on the market! Whether your needs be for the Junior, the Ace® or the Super Ace® you can rely on the Sprout-Waldron mill for the latest in engineering design. This means uniform high quality, maximum production rates and minimum operating costs. For details request Bulletin 165-A (Junior), Bulletin 100-A (Ace) and Bulletin 201 (Super Ace).

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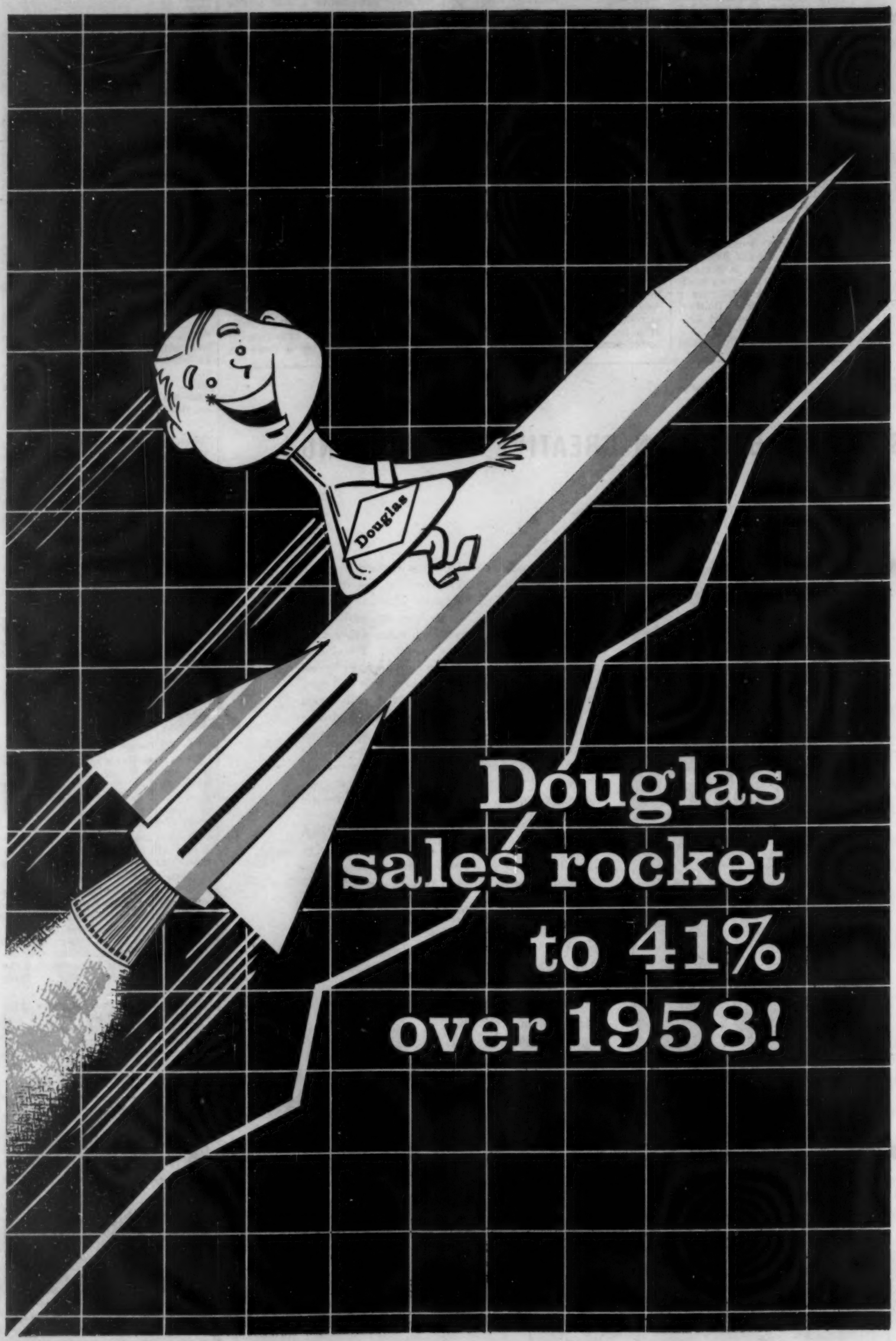


Douglas
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to 41%
over 1958!

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**Why...? Because grainmen all over the country have found out that when they want sure-fire results, Douglas delivers. They've found that Douglas liquid fumigants give 100% kill as promised... on the first application.**

**They've found that Douglas aeration systems have overcome the disadvantages of other systems... high cost and unpredictable results. In short, they've found Douglas delivers everything promised.**

**43 years of experience has given Douglas extensive laboratory and technical know-how in the field of grain sanitation. This know-how is continually being increased by the intensive research of its entomologists, chemists, and aeration engineers.**

**Our thanks to the Douglas jobbers and dealers who have helped Douglas reach the top as the nation's grain sanitation authority. Their cooperation in fully stocking and enthusiastically promoting Douglas products has helped bring about this tremendous demand for Douglas products.**

**Want to cash in on this growing demand? Write, wire or phone for information on how you can become a Douglas dealer or jobber.**

# Douglas Chemical Company

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## Minnesota Researcher Uses Japanese Quail In Poultry Experiments

ST. PAUL—Japanese quail are being used in poultry research at the University of Minnesota. Dr. R. E. Burger, poultry husbandry department, has 150 of the birds, and plans to have 1,000 in the near future.

Quail are being used at several other colleges; Dr. Burger got his from the University of California.

Dr. Burger noted that quail make good research tools because they have physiological responses much like laying hens. Whenever a new finding is made with the little birds, he will check it out with full size chickens.

The researcher said the value of using quail is that much research needs to be done with large numbers of birds to produce meaningful results, and that 1,000 mature quail hens can be kept in a mere 150 sq. ft.—only 7% as much space as needed for the same number of regular chickens.

He noted also that quail eat less and are easy to care for. A newly-hatched quail takes up little more space than a good-sized marble, and weighs about as much as a nickel.

Quail will figure in many studies—egg production, sexual maturity, heart rate, respiratory rate and others. One of the first such projects will involve a common type of heart failure—and whether tranquilizers can help prevent it.

The technical name for the condition, according to Dr. Burger, is atherosclerosis. It occurs when "plaques," or scar tissue, form inside the arteries in the heart and leading from it.

While much needs to be learned about atherosclerosis, Dr. Burger says past research shows it is more likely to occur among birds under some kind of stress. He hopes to learn, using quail, whether tranquilizers can help reduce the trouble.

## Pellets for Wintering Weaner Calves Lauded At California Meeting

YREKA, CAL.—Pelleted hay used as livestock feed will provide gains of up to 250 lb. during the winter months for weaner calves, moving them out of the lot weighing at least 650 lb., according to information passed on to Siskiyou County cattlemen by S. D. Nelson, county farm adviser, at a recent meeting.

Mr. Nelson said tests on 768 head of calves during two winters showed that the cost per pound of weight gain varied from 16 to 21¢. On some ranches, Mr. Nelson explained, the additional expense of pelleted feeds was being paid for by savings in labor, storage and waste.

He noted also that the local tests showed a hay pellet containing 30-50% grain may be ideal.

"The value of the feed is not changed," he said, "by putting it into pellet form—the extra gain of approximately 20% results because the stock will eat more."

It was pointed out that cheaper original feed may be used because of increased consumption.

"In the future we may have pelleting machines to take into the fields like we now use balers," he said. Mr. Nelson recommended getting the animals ready for slaughter as soon as possible after wintering on pellets.

He cited the following observations from the Siskiyou County tests: (1) There were no ill effects; (2) when self fed pellets over the winter, weaners will consume about 3½% of their live weight per day, or around 17 lb., and (3) gains of 1.6 lb. a day can be expected when an entire herd is considered, including good and bad doers, weaning and shipping shrink, sickness and other factors.

He concluded, "It can be unequivocally stated that they make excellent gains and come through the winter with wonderful bloom and condition. Their briskets are full and flanks low and most of the calves are laying on fat."

## USDA Reports Trends In Fats, Oils Industry

WASHINGTON—The shift in recent years to high-speed screw-press and solvent extraction in the oilseed industry has increased the yield of vegetable oils in the U.S., according to a research report issued recently by the U.S. Department of Agriculture.

The improved methods yield about 30 lb. more cottonseed oil per ton than the older hydraulic method. Today more than four fifths of all cottonseed is processed by the high-speed screw-press or solvent methods of extraction, according to the report. In 1952-53 less than one third of the cottonseed was processed by these methods. More than nine tenths of the soybeans have been processed, in recent years, by the solvent method of extraction.

Despite an 18% increase in oilseed crushings between 1952-53 and 1957-58, the capacity of the industry still substantially exceeds the supply of seeds for crushing. Processing plants have been getting fewer, but larger.

The study is part of a research program by the Agricultural Marketing Service to improve efficiency and reduce costs in marketing farm products. A copy of the report, "Capacity and Processing Trends in the Fats and Oils Industry," Marketing Research Report No. 360, may be obtained from the Office of Information, U.S. Department of Agriculture, Washington 25, D.C.

## New Urea Plant

CINCINNATI—Vulcan-Cincinnati, Inc., engineer and builder of chemical and petrochemical plants and equipment, has been awarded a contract to engineer and equip a urea plant to be built at Calgary, Alberta, for Consolidated Mining & Smelting Co. of Canada, Ltd.

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Now you can add an amazing "feather touch" to your formulas with powerful feather meal and poultry by-products meal. Substitute this efficient pair for expensive feed ingredients . . . improve quality, reduce cost, and increase sales with new high-efficiency feeds.

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The first feed additive tranquilizer that improves productive performance of layers and growing chickens through the relief of costly stress.

**WHAT IS SERPASIL?**

SERPASIL is the CIBA brand name for reserpine—a pure, crystalline alkaloid derived from the root of a small, wild shrub found in parts of India and other tropical areas. This shrub is of the rauwolfia species. In ancient times the whole root was given by healers for an amazing array of ailments, from dysentery to insanity. These old medical practices and beliefs had great basis in fact, it appears. For, when reserpine, first isolated and purified by CIBA was introduced, it met with instant success in quieting the mentally ill, calming the neurotic, and aiding the hypertensive and the aged.

Now, the known stress relieving effects of SERPASIL can be applied to poultry. Inclusion of SERPASIL in layer and broiler feeds will provide important benefits when poultry is raised under usual commercial conditions . . . benefits to the poultryman and the feed manufacturer.

**WHAT SERPASIL DOES**

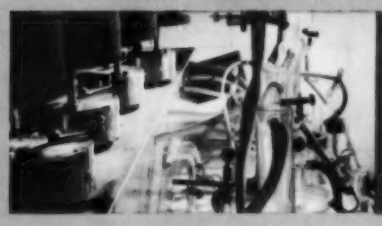
SERPASIL premix counteracts the costly effects of stress due to crowding, temperature, environmental changes and other flock tensions. It calms the birds—lets them make fullest use of the feed they eat, helps keep them from wasting feed at the hopper. Experiments conducted under adverse temperature conditions showed it to promote egg production, improve shell thickness and egg quality when compared to controls. Mortality, associated with heat or other stresses, is minimized. The modest cost of SERPASIL added to feeds is more than offset by reduced wastage of feeds. And, tissues and eggs from chickens raised on a concentration of 1 ppm SERPASIL are entirely free of reserpine.

**WHAT IS CIBA?**

CIBA is a 75-year old international chemical organization manufacturing pharmaceuticals, dyes, plastics and related chemical products. Such products are primarily developments of the extensive research facilities of CIBA. For example, CIBA was the first to isolate, identify and introduce reserpine for human treatment, as well as poultry. CIBA was granted a U. S. Patent on the chemical, reserpine, in 1956.

In addition to its world-wide leadership in research, the company is also proud of its reputation for quality products. The word CIBA on the bag indicates painstaking analysis insuring that the contents meet highest standards.
CIBA Pharmaceutical Products Inc., Summit, New Jersey.

*Food and Drug Administration application filing kits are available on Serpasil. Write* CIBA *for yours today.*



CIBA

## McMillen Feed Mills Announces Promotions

FT. WAYNE, IND.—Five promotions in the feed sales division have been announced by McMillen Feed Mills, Ft. Wayne.

James Cox has been promoted from assistant territory manager to territory manager in the northern one third of lower Michigan. He joined the company in June, 1957, after graduation from Purdue University.

Vern Leeka, who joined the company in 1954, has been named territory manager at large in Michigan. He has held various assignments as an assistant territory manager in the Michigan district.

Frank Welton, territory manager at large in Indiana, has been promoted to territory manager in east central Wisconsin. He is a graduate of Butler University.

Martin Burik and Stewart Dalton have been named territory managers in Iowa. Mr. Burik, who has been working as an assistant territory manager, will handle seven counties in the southwest corner of the state. Mr. Dalton previously was assistant territory manager at large in Wisconsin. He will now be responsible for 11 counties in southeastern Iowa.

## A. J. Latham Promoted

VICKSBURG, MISS.—A. J. (Andy) Latham has been appointed manager of Valley Mills Farm Store in Vicksburg, succeeding H. P. McKeown, who resigned recently. Valley Mills is a division of the Merchants Co.

Mr. Latham, a native of Carthage, Miss., for the past three years has served as manager of the Valley Mills Farm Store in Columbus, Miss.

Valley Mills manufactures and distributes feeds in Louisiana, Mississippi and Alabama. The Valley Mills Farm Store in Vicksburg serves as a distributing center for feeds in several counties in Mississippi and parishes in Louisiana.

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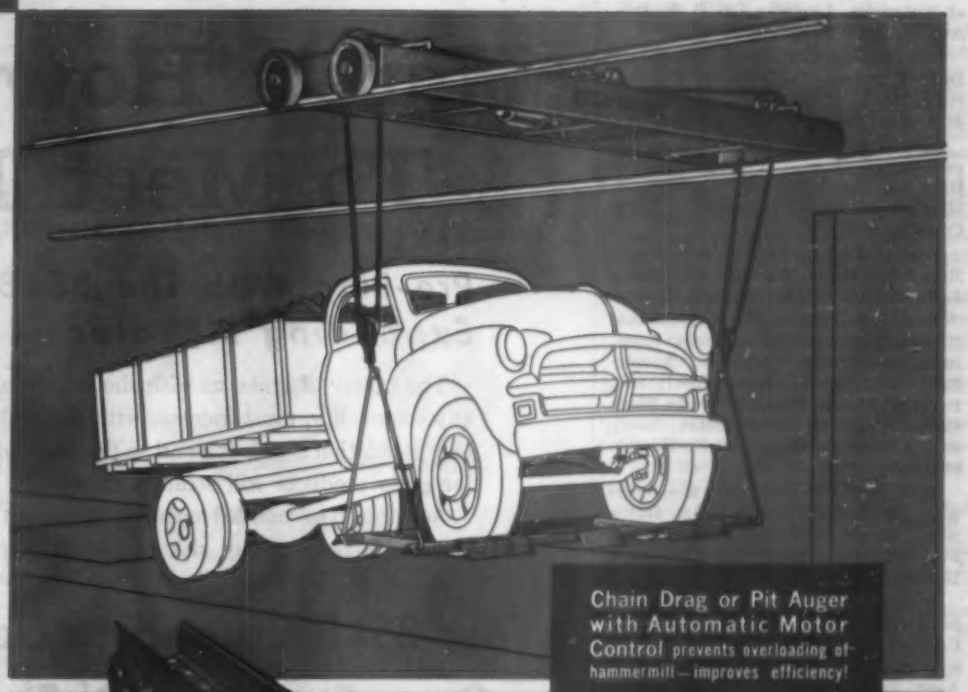
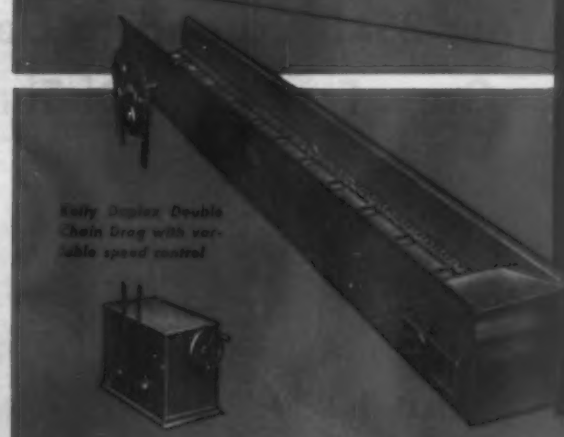
Designed to unload trucks in less time, with less power . . . the Kelly Duplex Electric Truck Hoist combines all welded steel construction, tough steel cable, heavy duty motor and special gearing to lift loads with absolute ease and safety. A positive action switch controls all raising and lowering—lifts truck to any height up to 15 feet, stops operation instantly at any point, holds truck at desired angle for any length of time. The entire hoist moves freely on an overhead steel track (so flanged that wheels cannot "jump the track" regardless of stress) . . . and is easily positioned for unloading into any number of dump sinks. Available with either a ramp type or a mat type cradle, this machine can be furnished in any width and can be powered to meet your requirements.

KELLY DUPLEX
single and double chain drags

Unsurpassed for steady, even delivery of grain and ear corn. Single chain drags have V-trough construction—10" wide bed—choice of wood or steel box. Double chain drags are made entirely of welded steel—are available with 12", 16", 20" or 24" wide bed. All drags can be made in any length with either single or double gear reduction . . . can be powered by motor or belt drive . . . and can be furnished with variable speed control.

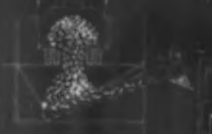




Kelly Duplex Double Chain Drag with variable speed control



Chain Drag or Pit Auger with Automatic Motor Control prevents overloading of hammermill—improves efficiency!



Control connects to both hammermill motor and feeder motor. If hammermill motor shows overload from excessively rapid feeding—the motor on the feeder automatically stops until load passes—then automatically starts again.

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# Convention Calendar

Oct. 27-28—Indiana State Poultry Assn.; Hotel Severin, Indianapolis; sec., Robert L. Hogue, Poultry Science Bldg., Purdue University, Lafayette, Ind.

Oct. 29—Nebraska Feed & Nutrition Conference; University of Nebraska, Lincoln; chm., Dr. John Adams, Poultry Husbandry Department.

Oct. 29-30—Washington Poultry and Hatchery Assn.; Ben Franklin Hotel, Seattle.

Oct. 29-30—West Virginia Feed Dealers Assn.; Blackwater Falls Lodge, Davis; sec., J. S. Larrick, Beckley Ice & Feed, Beckley, W. Va.

Oct. 30—Rooters Day; University of Nebraska, Lincoln; Dr. E. R. Peo, Animal Husbandry Department.

Oct. 30—Illinois Sheep Producers Day; University of Illinois, Urbana; chm., Dr. U. S. Garrigus, Department of Animal Science.

Nov. 1-4—Mississippi Poultry Improvement Assn., Biloxi; Dean & Director, Division of Agriculture, Mississippi State University, State College, Miss.

Nov. 4-5—Kansas Poultry Assn.; Broadview Hotel, Wichita; sec., Harry J. Reed, Box 663, Manhattan, Kansas.

Nov. 4-5—Illinois Feed Assn. and Illinois Poultry Improvement Assn., joint convention; Armory, Springfield, Ill.; IFA, Leland Hotel; sec., Dean M. Clark, Board of Trade Bldg., Chicago; IPIA, St. Nicholas Hotel; sec., Aubrey Harless, Box 91, Shelbyville, Ill.

Nov. 4-7 — National Renderers Assn., Hollywood Beach Hotel, Hollywood Beach, Fla.; sec., Miss Jamie Fox, 30 N. La Salle St., Chicago 2, Illinois.

Nov. 5-6—Florida Nutrition Conference; Medical Center Auditorium, University of Florida, Gainesville; sponsored by Florida Feed Dealers Assn. and Florida Agricultural Experiment Station; chm., Dr. J. P. Feaster, Department of Animal Husbandry and Nutrition.

Nov. 6-7—Oklahoma Formula Feed Conference; Oklahoma State University, Stillwater; chm., Dr. Rollin H. Thayer, Poultry Science Department.

Nov. 12-13—Cornell Nutrition Conference; Hotel Statler, Buffalo, N.Y.; chm., Dr. F. W. Hill, Poultry Husbandry Dept., Cornell University, Ithaca, N.Y.

Nov. 11-13—Cornell Nutrition Conference; Hotel Statler, Buffalo, N.Y.; chm., Dr. M. L. Scott, Poultry Husbandry Department, New York State College of Agriculture, Cornell University, Ithaca, N.Y.

Nov. 13-14 — Oregon Sheep and Wool Days, Oregon State College, Corvallis; chm., Dr. C. W. Fox, Dairy & Animal Husbandry Dept.

Nov. 16—North Dakota Sheep Day; North Dakota Agricultural College, Fargo; M. L. Buchanan, Chief, Division of Animal Industry.

Nov. 16—Tennessee Feed Manufacturers Assn., Claridge Hotel, Memphis, Tenn.; sec., Charles H. Warfield, American Trust Bldg., Nashville, Tenn.

Nov. 16-17—Washington Animal Industry Conference; Yakima Junior College, Yakima, Wash.; John G. Wilson, Washington State Feed Assn., Inc., 814 Second Avenue Bldg., Seattle 4.

Nov. 18—School for Poultry Servicemen; University of New Jersey, Agricultural Experiment Station, New Brunswick; chm., R. L. Squibb, Department of Poultry Science.

Nov. 19-20—National Swine Industry Conference; Iowa State University, Ames; chm., Keith Myers, National Swine Growers Council, Grundy Center, Iowa.

Nov. 21—Missouri Sheep Day, University of Missouri, College of Agriculture, Columbia; C. V. Ross, Department of Animal Husbandry.

Nov. 22-24—Western Grain & Feed

## New Listings

**For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear separately from ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.**

● ● ●

March 31-April 2—Pacific Dairy & Poultry Assn. Exposition and Convention; Stardust Hotel, Las Vegas, Nev.; association office, 1304 E. 7th St., Los Angeles 21, Cal.


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Grain Storage Needs

# Here's How To Expand To Meet The Demand

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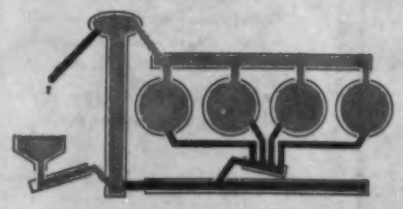
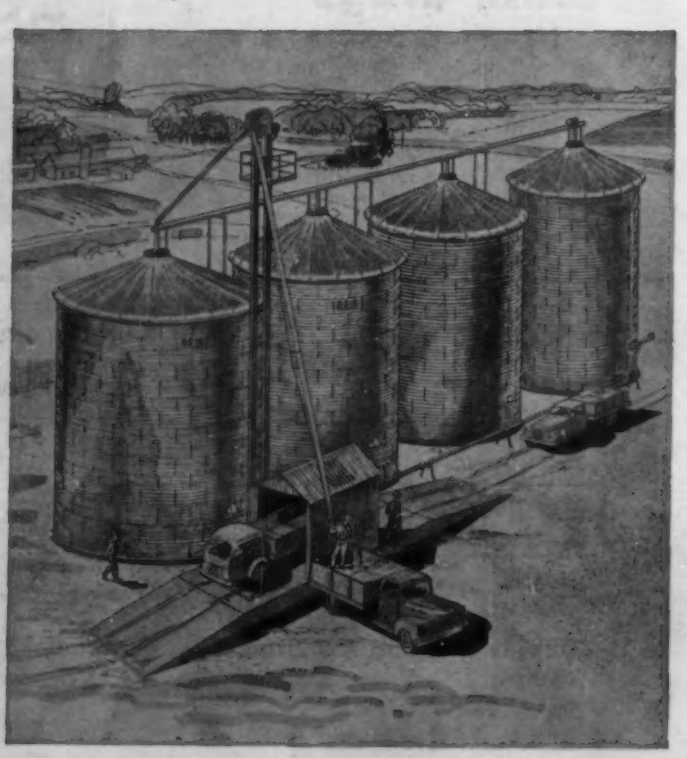
As a business minded operator, your real concern is not for any risk of investing in storage expansion, but in selecting storage facilities that are economically in line with the growth and flexibility requirements of your business.

More and more elevator managers are finding that no other facility meets those requirements quite as well as BS&B "King-Size" Storage Bins and Corrugated Tanks.

## Your BS&B Expanding Elevator Can Grow From One Of Three Basic Installation Plans

**Plan 1**
**Truck Facility**
Four BS&B "King-Size" Bins or Tanks in line; upper conveyor, lower conveyor and portable auger; truck dump pit with lift.





Assn. of Iowa; Fort Des Moines Hotel, Des Moines, Iowa; sec., Bob Skinner, 928 Des Moines Bldg., Des Moines 9, Iowa.

Nov. 23-25—Alabama Animal Nutrition and Management Conference; Duncan Hall, Alabama Polytechnic Institute, Auburn; sponsored by Alabama Feed Assn., sec., Merlin Bryant, Brundidge Milling Co., Inc., Brundidge, Alabama.

Nov. 27-28—American Society of Animal Production; Sherman Hotel, Chicago, Ill.; sec., Dr. H. H. Stonaker, Colorado State University, Ft. Collins, Colo.

Nov. 30-Dec. 1—Midwest Veterinary Nutrition Conference; President Hotel, Kansas City; sec., Lloyd Larson, Midwest Feed Manufacturers Assn., 20 W. 9th Street Bldg., Kansas City 5, Mo.

Dec. 2—Ontario Retail Feed Dealers Association; King Edward Sheraton Hotel, Toronto; sec., Murray McPhail, 69 Yonge Street, Toronto.

Dec. 3-4—North Carolina Animal Nutrition Conference; North Carolina State College, School of Agriculture, Raleigh; chm., E. R. Barrick, Head, Animal Husbandry Section.

Dec. 4-5 — Arkansas Turkey Convention and Show; Berryville, Arkansas; sec., Charles D. Hawks, P. O. Box 1446, Little Rock.

Dec. 7-9—Minnesota Poultry Assn., Radisson Hotel, Minneapolis; sec., L. L. Baumgartner, Litchfield, Minn.

Dec. 7-11—Washington Stockmen's Short Course; Washington State University, Pullman.

Dec. 8-9 — Poultrymen's Service Clinic; Cornell University, Ithaca, N.Y.

1960

Jan. 4-5—Kansas Formula Feed Conference; Kansas State University, Manhattan, Kansas.

Jan. 4-8 — Retail Feed Dealers Training School; University of Minnesota, St. Paul; Dr. J. O. Christianson, Director of Agricultural Short Courses, Institute of Agriculture, St. Paul 1.

## CALENDAR FOR 1959-60

**OCTOBER**

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**NOVEMBER**

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**JANUARY**

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**JUNE**

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**JULY**

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**AUGUST**

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**SEPTEMBER**

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Jan. 5-7—National Turkey Federation; Hotel Leamington, Minneapolis; sec., M. C. Small, P.O. Box 69, Mt. Morris, Ill.

Jan. 17-19—Indiana Grain & Feed Dealers Assn.; Claypool Hotel, Indianapolis, Ind.; sec., Fred K. Sale, 900 Board of Trade Building, Indianapolis, 4, Ind.

Jan. 25-27 — Southeastern Poultry & Egg Assn.; Municipal Auditorium, Atlanta, Ga.; sec. Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Feb. 2-4 — American Dehydrators Assn.; Broadmoor Hotel, Colorado Springs; exec. vice pres., Joseph Chrisman, 430 Board of Trade Bldg., Kansas City 5, Mo.

Feb. 4-5—Oregon Animal Industry Conference; Oregon State College, Corvallis, Ore.; chm., Dr. J. E. Parker, Poultry Husbandry Department.

Feb. 8-9—Montana Nutrition Conference; Montana State College, Bozeman; chm., Dr. O. O. Thomas, Animal Industry Dept.

Feb. 8-9—Midwest Feed Manufacturers Assn.; Muehlebach Hotel, Kansas City; exec. vice pres., Lloyd Larson, 20 W. 9th St. Bldg. Kansas City 5, Mo.

Feb. 10-11—Pacific Northwest Feed Mill Production School; Chinook Hotel, Yakima, Wash.; sponsored by Washington State Feed Assn., mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4, Wash.

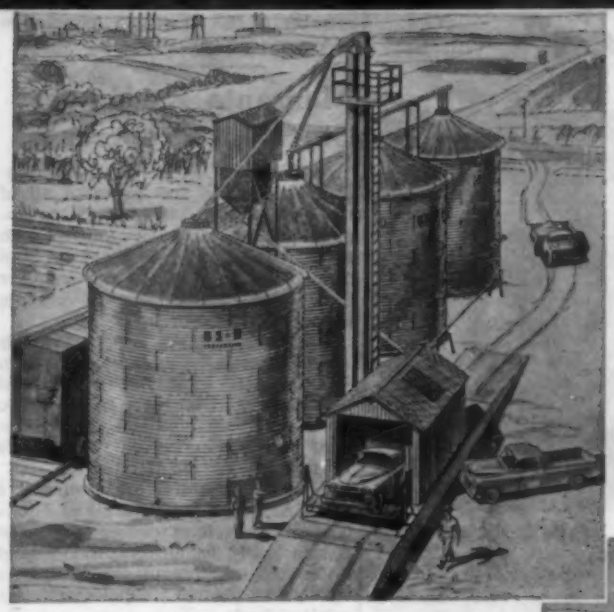
Feb. 11—Boston Grain and Flour Exchange Annual Banquet; Sheraton-Plaza Hotel, Boston; chm., Paul Sutliff, 177 Milk St., Boston, Mass.

Feb. 12—Washington State Feed Assn.; Chinook Hotel, Yakima, Wash.; annual convention; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4, Wash.

Feb. 12-14—Fact Finding Conference, sponsored by the Institute of American Poultry Industries; Municipal Auditorium, Kansas City, Mo.; pres., Harold M. Williams, 59 East Madison, Chicago, Ill.

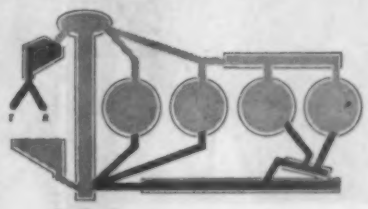
Feb. 21-23—Ohio Grain & Feed Dealers Assn.; Commodore Perry Hotel, Toledo; sec., George G. Greenleaf,

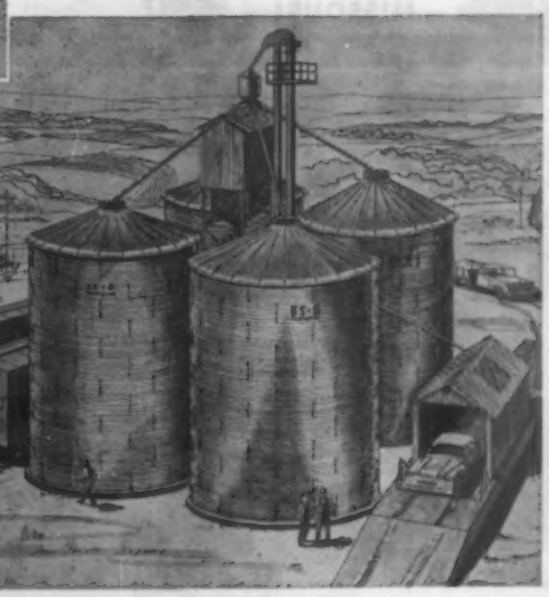

# Increase Each Year



## Plan 2
### Truck & Rail Facility

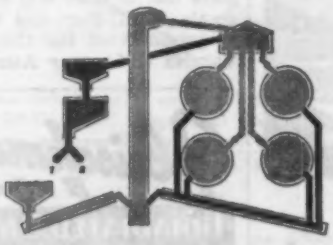
Two front bins feature gravity load and unload for short hold storage; other two bins are equipped with upper and lower conveyor and portable auger for long term storage. Note scale house for automatic weigh-outs.





## Plan 3
### Truck & Rail Facility

For load-out of weighed shipments. Four BS&B "King-Size" Bins or Tanks; bucket elevator, gravity spouts to bins and automatic scales, dump pit and truck hoist.



The capacity of each basic plan can be varied using different size BS&B Bins. With the modest investment of around 21c a bushel your basic BS&B Expanding Elevator is ready to grow 15 different ways, depending on your exact requirements.

***Get Detailed Planning Manual, "BS&B Guide For The Expanding Elevator"***

Schematic diagrams and specification lists show 75 different sized installations and 225 varying capacity expansion possibilities.

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RILEY Feed Company

BROKERS— COMPLETE LINE OF FEED INGREDIENTS

839 BOARD OF TRADE KANSAS CITY 6, MO. BALTIMORE 1-8960

6625 N. High St., P.O. Box 121, Worthington, Ohio.

Feb. 23-24—Virginia Feed & Nutrition Conference; Hotel Roanoke, Roanoke; J. Paul Williams, sec., Virginia State Feed Assn., 615 E. Franklin St., Richmond, Va., or Prof. Paul M. Reaves, Department of Dairy Science, Virginia Polytechnic Institute, Blacksburg, Va.

March 7-8—Grain & Feed Dealers National Assn.; Hotel Muehlebach, Kansas City; sec., Herbert L. Sharp, 400 Folger Bldg., Washington 5, D.C.

March 17-18—Oregon Feed & Seed Dealers Assn.; New Sheraton Hotel, Portland, Ore.; mgr., Russ Hays, 702 Lewis Bldg., Portland, Ore.

Mar. 17-18—Maryland Nutrition Conference; Shoreham Hotel, Washington, D. C.; chm., Richard D. Crook, University of Maryland, Department of Poultry Husbandry, College Park.

March 23—Distillers Feed Conference; Sheraton Gibson Hotel, Cincinnati; sponsored by Distillers Feed Research Council; exec. director, Dr. Lawrence E. Carpenter, 1252 Enquirer Bldg., Cincinnati, Ohio.

April 1-2—Texas Grain & Feed Assn., Shamrock Hotel, Houston; sec., Ray B. Bowden, 407 Fort Worth Club Bldg., Ft. Worth 2, Texas.

April 5-7—Nebraska Grain & Feed Dealers Assn.; Pershing Municipal Auditorium, Lincoln; sec., Howard W. Elm, Trust Bldg., Lincoln, Neb.

April 11-13—Poultry and Egg National Board, LaSalle Hotel, Chicago, Ill.; mgr., Floyd Gell, 8 S. Michigan Ave., Chicago 13, Ill.

April 21-23—California Hay, Grain & Feed Dealers Assn., Ambassador Hotel, Los Angeles; sec., John Gilmore, Blue Anchor Bldg., 1400 10th St., Sacramento 14, Cal.

April 21-23—Kansas Grain & Feed Dealers Association; Broadview Hotel, Wichita, Kansas; sec., Orris E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

April 22 — Nebraska Livestock Feeders Day; University of Nebraska, College of Agriculture, Lincoln; chm., Wm. J. Loeffel, Animal Husbandry Dept., Lincoln 3, Neb.

May 1-4—National Fisheries Institute; Hotel Fontainebleau, Miami Beach, Fla.; asst. gen. mgr., Mal Xavier, 1614 20th St. N.W., Washington 9, D.C.

May 9-11—American Feed Manufacturers Assn.; Conrad Hilton Hotel, Chicago; sec., W. T. Diamond, 53 W. Jackson Blvd., Chicago 4, Ill.

June 14-15—Alabama Poultry Industry Assn.; Municipal Auditorium (Exhibits) and Thomas-Jefferson Hotel, Birmingham, Ala.; sec., W. L. Walsh, Box 567, Montgomery.

July 23-26—Georgia Feed Assn.; General Oglethorpe Hotel, Wilmington Island, Savannah; sec., Will L. Kinard, Suite 210, 3240 Peachtree Road Bldg., Atlanta 5, Ga.

## Soybean Purchases

MARSHALLTOWN, IOWA — Purchases of soybeans amounting to more than $1½ million the past year were announced recently by Fred Johnson, president, Marshall Mills, Inc., here. The announcement also mentioned that 800 cars of meal and nearly 100 cars of soybean oil were produced at the local plant.

## Veterinarian Named to Nopco Pacific Division

RICHMOND, CAL. — The appointment of Dr. Glenn E. Taylor, veterinarian, to the agricultural department of Nopco Chemical Co., Newark, N.J., has been announced by R. J. Kingsley, general sales manager for the company's Pacific division.

Dr. Glenn Taylor

In his new position, Dr. Taylor will help Nopco customers with problems on animal health and care, with particular emphasis on improved nutrition.

In addition to offering his services to individuals and companies engaged in livestock feeding Dr. Taylor will continue to develop modern feeding methods, both on the range and in the feedlot.

Dr. Taylor will continue to operate Yosemite Veterinary Hospital & Supply and Agribusiness Research Farms, Modesto, Cal. He is well known in the West as a practicing veterinarian and nutrition consultant, and is a member of the American Association of Veterinary Nutritionists.

## Monsanto Exchanges Stock for Property

CHARLESTON, W. VA.—Monsanto Chemical Co. has acquired all of the outstanding stock of Nitro Industrial Corp., a realty company with extensive property holdings in and around Nitro, W.Va., in exchange for 27,675 shares of Monsanto's common stock.

Real estate which changed hands in the transaction includes more than 700 acres of industrial, commercial and residential property in the Nitro area, including some 180 acres of vacant land adjacent to Monsanto's present 58-acre plant site.

Monsanto manufactures a variety of industrial organic chemicals at Nitro. The company is extending its line of agricultural chemicals produced at Nitro and now manufactures there a synthetic protein supplement for poultry feeds.

### TO REPRESENT TAMMS CO.

CHICAGO—Tamms Industries Co., Chicago, has announced the appointment of the L. H. Herr Co., Denver, to represent the Tamms raw material division in Colorado and portions of Wyoming and New Mexico. Tamms is well known to the feed and fertilizer industries, as well as to paint, polish, putty, rubber, soap and compound manufacturers. The firm has a complete line of filler and extender pigments. L. H. Herr has twice served as president of the Colorado Paint, Varnish & Lacquer Assn.


**These champions of many breeds were produced with "feed urea"**

*It pays to use* **PROCADIAN® UREA** *in your feeds*

**Like hundreds of other winners** in local, state and regional show rings, these champions of Shorthorn, Angus, Hereford, Jersey and Guernsey breeds were grown on supplements containing PROCADIAN® Urea Feed Mixture. Their owners, and thousands more like them, know that this concentrated source of protein leaves you more room in the bag to supply all the energy, minerals, vitamins and other essentials of a balanced supplement. They also know that feed urea helps them get more economical production of meat or milk because it helps the animals digest more feed and roughage per day and get more good out of their entire ration. It pays to use PROCADIAN Urea in all your ruminant feeds. Order PROCADIAN today.

**NITROGEN DIVISION**
40 Rector Street, New York 6, N. Y.
*Sales offices in leading farm areas*

Allied Chemical

Fleischmann's F·I·D·V
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

# Up Go Sales and Profits When You Sell

# GRAN-I-GRIT'S NEW GRIT FEEDING PROGRAM

## Broiler Growers and Egg Producers can make More Money from feed Without Adding One Cent to that Cost!

With today's low profit margins it is EXTREMELY IMPORTANT that both Broiler Growers and Egg Producers take advantage of new methods of operation that will increase their profits.

It is just as important that you as a feed manufacturer, jobber or dealer, know about new methods that will increase the profits from your feed.

Daily results from GRAN-I-GRIT'S New Grit Feeding Program are proving that both Broiler Growers and Egg Producers, by getting full feed utilization, are making more money through feeding larger sizes of grit.

### GRAN-I-GRIT RESEARCH FIRST PIONEERED and PROVED that Feeding Larger Sizes of GRIT WOULD INCREASE PROFITS

GRAN-I-GRIT Research Proved that larger sizes of grit, instead of passing through the digestive tract like small grit, stays and works in the gizzard.

Larger sizes of grit not only grind feed finer and more efficiently in the gizzard, but keep the digestive tract open for full feed utilization by completely grinding feathers and fibrous litter that all birds will eat.

By informing your customers of GRAN-I-GRIT'S New Grit Feeding Program you can show them HOW TO MAKE MORE MONEY FROM YOUR FEED, which in turn will stimulate your sales and profits.

**Made $31.00 MORE PROFIT Per 1000 Broilers**

Mr. Gurney C. Hodges, top broiler grower of Lew Gap, North Carolina, states, "I tested GRAN-I-GRIT'S New Grit Feeding Program on 4,000 broilers, feeding the larger sizes of GRAN-I-GRIT as recommended. I made $127.50 more with these 4,000 broilers than I did with 4,000 broilers, raised at the same time, to which I did not feed the larger sizes of grit. I feel sure that the larger sizes of grit were responsible for this outstanding result."

### Get Full Details GRAN-I-GRIT'S *New* Grit Feeding Program

We have a new GRAN-I-GRIT circular that gives full details of the new GRAN-I-GRIT program of feeding larger sizes of grit . . . the program that is proving so successful with both Broiler Growers and Egg Producers. Write today for a free copy.

Top poultrymen use GRAN-I-GRIT. They know from experience that GRAN-I-GRIT is the best profit producing grit they can use. GRAN-I-GRIT is insoluble . . . does not dissolve and cannot change the mineral balance of your feed.

GRAN-I-GRIT is packed in 10 lb. Easy to Stock, Self Feeding Packs that save valuable storage space, time and labor and in 25, 50 and 80 lb. multiwall paper bags.

## GRAN-I-GRIT IS BEST WITH *Eye Appeal*

Selected By Birds

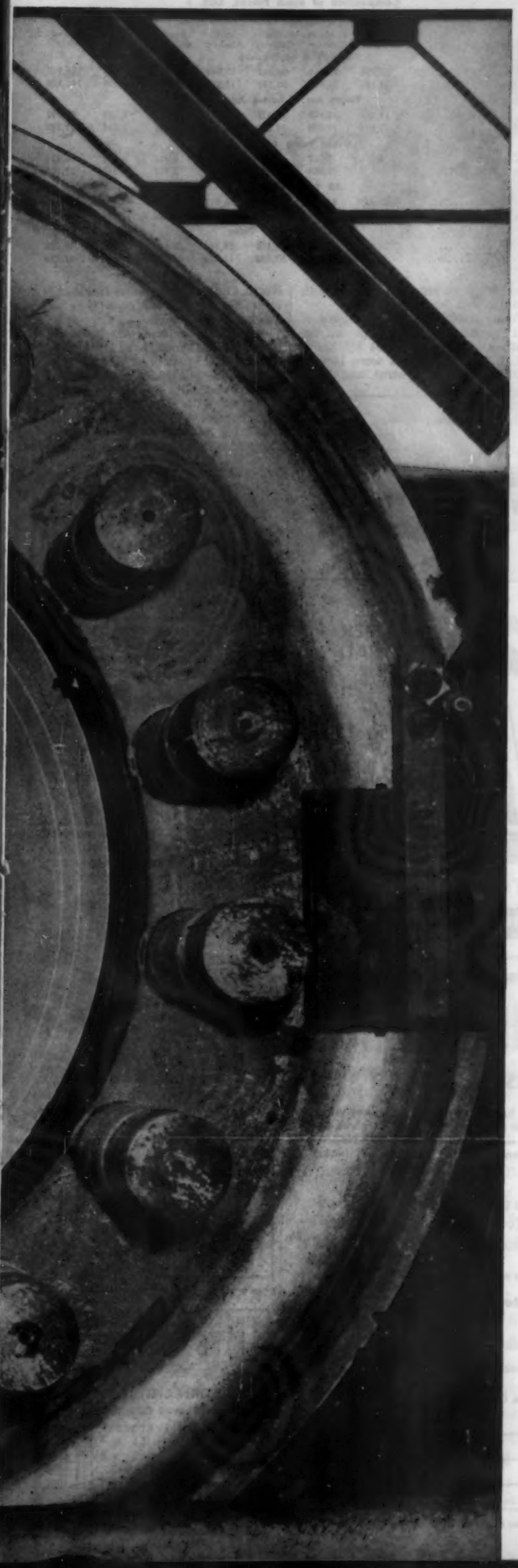
### 20 to One Over Other TYPES OF GRIT

Chicks, broilers, pullets or layers must consume the proper amount of grit to get maximum results from feed and GRIT MUST HAVE EYE APPEAL before poultry will eat it. Side by side tests on poultry farms and by leading poultry authorities have proven that poultry of all ages prefer a light gray grit with black specks . . . the GRAN-I-GRIT TYPE . . . (as much as ten, fifteen, twenty to one) over grit of other colors.

**NORTH CAROLINA GRANITE CORP.** Mount Airy, North Carolina

Member of Granite Grit Institute of America

**THE GRIT WITH THE SHARPEST GRINDING EDGES EVER CUT**



Giant autoclaves, especially built for American Cyanamid Company, are silver plated inside, turn out a feed grade urea of the highest purity. In actual operation, both ends are closed up. As the autoclave whirls, carbon dioxide and ammonia gases are injected, then subjected to extremely high temperature and pressure. The result is a urea solution, which after excess ammonia is removed, contains less than 1 per cent impurities.

## Cyanamid introduces a new feed grade Urea of highest purity

# CYREA*

UREA FEED COMPOUND

From its new, ultra modern plant, Cyanamid now offers you a feed grade urea unexcelled for purity. Its name: CYREA. Its characteristic: *Guaranteed 42% nitrogen.* Cyanamid uses special quality control checks at every stage of production and runs an analysis on every batch before bagging. You are assured of a feed grade urea that is guaranteed 42% nitrogen bag after bag after bag.

**Low Biuret** — The biuret content of CYREA is extremely low. That means rumen bacteria are provided with maximum amounts of usable nitrogen.

**Controlled, micro-prilled particle size** — CYREA comes in the form of small, rounded beads. These prills are subjected to several screenings to assure a uniform and perfect particle size for your feeds. Micro-prilling also means CYREA will be evenly distributed in the feed.

**Free-flowing, non-bridging** — CYREA flows freely when it's made — and when you use it. That's because each prill is coated. They won't cake or bridge. CYREA is packaged in moisture-resistant, polyethylene-lined multiwall bags available to you in 80 lb. size.

Ask your Cyanamid representative to discuss this new product with you . . . and write to the address below for a specially-prepared booklet "Cyrea Urea Feed Compound in Ruminant Nutrition." American Cyanamid Company, Agricultural Division, New York 20, N. Y.

*CYREA is American Cyanamid Company's trademark for its urea feed compound.

CYANAMID
CYREA
UREA FEED COMPOUND

# USDA Report Indicates Drop In Nation's Laying Flock

WASHINGTON—With the number of young chickens off substantially, it looks as though the nation's laying flock as of Jan. 1 will be down from a year ago by about 4%.

More older hens have been kept this year but, reflecting low egg prices, the number of young birds for replacement is sharply below 1958, the U.S. Department of Agriculture's latest crop report shows.

The number of potential layers (hens and pullets of laying age plus pullets not of laying age) on farms Oct. 1 totaled 386 million—4% less than a year earlier. This is the smallest number of potential layers on farms on Oct. 1 since estimates began in 1931.

Most regions show decreases from 1958, but some of the southern and western areas show increases, largely because of the larger number of replacement birds raised this year in some of these sections in spite of the depressed egg prices.

The number of all young chickens on farms on Oct. 1 was 255,978,000, some 10% below a year ago and more than offsetting an increase of 5% in the number of hens one year old and older.

The rate of lay on Oct. 1 was 50.5 eggs per 100 layers, compared with 49.5 eggs Oct. 1 last year, but the number of layers totaled 302,204,000, about 1% lower than last year.

Decreases in potential layers from 1958 were reported in the East North Central, West North Central, North Atlantic and South Central regions.

**Composition of Farm Flocks, Oct. 1**
**(Thousands)**

| Year— | North Atlantic | E. North Central | W. North Central | South Atlantic | South Central | Western | United States |
|---|---|---|---|---|---|---|---|
| **Pullets of Laying Age** | | | | | | | |
| 1958 | 27,794 | 31,350 | 40,632 | 17,661 | 10,917 | 19,588 | 155,942 |
| 1959 | 26,192 | 26,013 | 36,321 | 17,899 | 10,896 | 19,009 | 144,330 |
| **Pullets Not of Laying Age** | | | | | | | |
| 1958 | 14,259 | 17,148 | 34,611 | 9,791 | 12,620 | 8,299 | 96,528 |
| 1959 | 12,936 | 14,048 | 28,611 | 10,061 | 10,451 | 7,634 | 83,740 |
| **Other Young Chickens** | | | | | | | |
| 1958 | 4,716 | 5,367 | 8,685 | 3,165 | 5,442 | 4,053 | 31,428 |
| 1959 | 3,977 | 5,084 | 5,579 | 3,553 | 6,180 | 3,535 | 27,908 |
| **All Young Chickens** | | | | | | | |
| 1958 | 46,769 | 53,865 | 83,728 | 30,617 | 34,979 | 31,940 | 283,898 |
| 1959 | 43,104 | 45,145 | 70,511 | 31,513 | 35,527 | 30,178 | 255,978 |
| **Hens One Year or Older** | | | | | | | |
| 1958 | 25,991 | 28,296 | 38,663 | 14,904 | 24,689 | 17,912 | 150,455 |
| 1959 | 25,231 | 30,038 | 39,998 | 17,126 | 25,213 | 20,268 | 157,874 |

Increases were reported in the South Atlantic and western states.

Young chickens were less than last year in all regions except in the South Atlantic, which was 3% above Oct. 1, 1958. Decreases were 16% in the East North Central and West North Central, 8% in the North Atlantic, 6% in the West and 4% in the South Central region.

All pullets on farms are estimated at 228,070,000, compared with 252,470,000 last year and the 1948-57 average of 272,153,000. Of the pullets on hand, 63% were of laying age, compared with 62% a year earlier. The number of laying pullets was about 7% less than last year and the number of pullets not of laying age was 13% less.

Other young chickens on farms totaled 27,908,000—11% less than a year earlier.

Hens one year old and older on Oct. 1 totaled 157,874,000—5% above last year, but 4% below Oct. 1, 1957. Hen numbers were above a year earlier in all regions except the North Atlantic. This year a larger number of hens was kept, partially offsetting the decrease in the pullet crop.

The USDA report noted that egg production in September totaled 4,539 million eggs—1% more than a year earlier. The nation's laying flock during the month averaged 1% less than a year earlier, but the rate of production per layer was up.

### CALIFORNIA FARM BUREAU

BERKELEY, CAL.—Membership in the California Farm Bureau Federation, the state's largest volunteer agricultural organization, has now reached 65,162, an all-time high for the organization. This leaves only 285 members yet to go for the statewide organization to reach the quota set a year ago by the American Farm Bureau Federation, with which it is affiliated. Clare McGhan, director of field services, reports there is now no question but that the state will make its quota this year for the first time since 1952.


3 Ways to
SELL MORE CALF-PAB

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NEW display shows dairymen how to LOWER FEED COSTS!

ARE YOU PAYING TOO MUCH FOR MILK REPLACERS?
SAVE UP TO 28% PER CALF
GET Blatchford's NEW
CALF-PAB
55% Milk Solids
Vitamin A - 12,000
Vitamin D - 4,000
Vitamin B12 and Antibiotics
Plus OTHER Essential Nutrients Your Calves Need!
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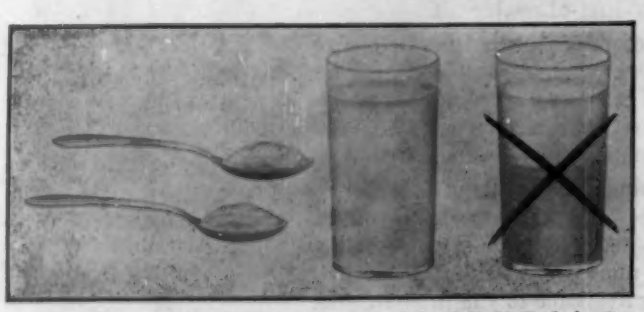

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# Limited Feeding vs. Limited Energy Feeds For the Growing Pullet

By Dr. J. H. Quisenberry
Texas A&M College

*EDITOR'S NOTE: The author—Dr. J. H. Quisenberry, head of the Texas A&M College department of poultry science—concludes in this article on the feeding of growing pullets that his choices of feeding programs lean in these directions: High fiber program for colony cage rearing; limited feeding for spring and summer range rearing with good range cover, and low fiber, full feeding for confinement floor pens and for fall and winter brooding on the range. This article is from a talk Dr. Quisenberry gave at the recent Arkansas Formula Feed Conference conducted on the campus of the University of Arkansas.*

Much new experimental work has been done in the past few years on the feeding of replacement pullets. The major portion of this work has centered around the subject of restricted feeding. Comparisons have been made between pullets reared on (1) limited daily feed intake, (2) high-fiber diets and (3) conventional, low-fiber, full-fed growing diets. By limiting daily feed intake or by full-feeding a 15-20% fiber growing diet, body weight may be reduced, sexual maturity delayed and the percentage of large eggs increased. The effects of these feeding practices on number of eggs laid and laying house mortality are still controversial. Full-feeding the high-fiber diets results in a considerable increase in feed cost per pullet placed in the laying house (31¢ over limiting the feed intake to 10 lb. per 100 birds per day to 21 weeks of age).

With the present experimental information on the feeding of replacement pullets the following three programs are currently the ones of choice:

**1. Full feeding program:**

(a) Feed a well fortified low fiber, 21% protein starter diet for the first 8 weeks.

(b) Feed a well fortified low fiber 18% protein grower diet from 8 to 16 weeks of age.

(c) Feed a well fortified low fiber 16% protein grower diet from 16 to 21 weeks of age.

(d) Start laying diet at 21 weeks.

**2. Limited feeding program:**

(a) Feed a well fortified low fiber, 21% protein starter diet to 8 weeks of age.

(b) From 8 to 21 weeks feed a well fortified 18% protein grower diet, limited to 10 lb. per 100 birds per day. The birds will probably be 10-12 weeks of age before they consume this amount daily but the restriction will become more severe as the birds get older.

(c) For pullets reared in the winter months, on especially cold days, supplementary feeding of 2-4 lb. of grain or mash would reduce mortality and culls.

**3. High fiber feeding program:**

(a) Feed a well fortified low fiber 21% protein starter diet for the first 8 weeks.

(b) From 8 to 21 weeks full-feed a 15% fiber, 15% protein growing diet.

(c) At 21 weeks feed a conventional layer diet. For November and December hatched pullets, feed the high fiber growing diet until the birds are 24 weeks of age and then switch to the layer diet.

### First Year's Feeding

For the past three years, these three feeding programs for rearing replacement pullets for commercial egg production have been under comparison at the Texas Agricultural Experiment Station. The first year, the pullets were fed a well fortified, low fiber starter diet for the first nine weeks. At nine weeks they were transferred to range pens and certain lots were placed on a conventional type low fiber, 18% protein grower diet. Other lots were fed a similar diet with 6% added fiber from oat hulls, cane pulp and stemmy alfalfa hay. Identical lots received these same diets but mechanically restricted to 70% as much as the other birds received. During the laying period all

**TABLE 1. Relation of Calories Consumed From 9 to 24 Weeks Exclusive of Those Obtained Free-Choice From the Range Pens, Low and High Fiber, Semi-Full Fed and 70% of Semi-Full Fed to Laying House Performance for 308 Days of Egg Production**

| Range of calories consumed | Lots included | Hen day prod. % | Average egg size (gm.) | 308 Day mortality % | Lb. feed/ lb. eggs | Diet Nos. |
|---|---|---|---|---|---|---|
| 8,000- 9,000 | 6, 8, 10 | 71.5 | 60.53 | 3.36 | 2.59 | II, IV, V |
| 9,000-10,000 | 4, 12 | 73.55 | 59.85 | 10.13 | 2.57 | III, VI |
| 10,000-11,000 | 7, 9 | 69.50 | 61.00 | 7.50 | 2.70 | II, IV |
| 11,000-12,000 | 1, 5 | 73.35 | 60.65 | 5.00 | 2.58 | I, V |
| 12,000-13,000 | 2, 3 | 72.20 | 60.55 | 3.75 | 2.64 | I, VI |
| 13,000 up | 11 | 69.60 | 61.30 | 12.50 | 2.61 | III |
| Low fiber (3.8%) | 1, 2, 3, 4, 11, 12 | 72.47 | 60.47 | 7.13 | 2.60 | I, III, VI |
| 6% Added fiber (8.9%) | 5, 6, 7, 8, 9, 10 | 70.42 | 60.70 | 5.43 | 2.62 | II, IV, V |
| Semi-full fed | 3, 5, 7, 9, 11 | 69.64 | 61.00 | 8.50 | 2.64 | II, III, IV, V, VI |
| 70% of Semi-full fed | 4, 6, 8, 10, 12 | 72.32 | 60.26 | 6.08 | 2.58 | II, III, IV, V, VI |

No apparent beneficial effects, except possibly lowered feed cost for the birds given limited feed, were obtained in these experiments.

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**TABLE 2. Effects of Limited Feeding Vs. Limited Energy Feeds Upon the Growing Performance of Egg Production Type Pullets**

| Diet and feeding program | Body wt. 22 wk., lb. | Feed cons'd, lb. | Mort. % | Av. cal. consumed 14-22 wk. only | Feed cost 14-22 wk. only, cents |
|---|---|---|---|---|---|
| Low fiber full fed | 3.06 | 16.93 | 4.6 | 8411 | 25.4 |
| Low fiber res. 10 lb./100 | 2.72 | 13.83 | 3.9 | 5536 | 16.7 |
| 15% Fiber full fed | 2.87 | 18.60 | 2.3 | 6379 | 24.3 |

**TABLE 3. Laying House Performance for 10 Months in Individual Cages as Influenced by Limited Feeding Vs. Limited Energy Feeds From the 14th to 22nd Week of Age**

| Growing diets | Age at 50% prod. days | Hen day prod. % | Av. egg wt., gm. | Lb. feed/ lb. eggs | Body wt., lb. | Mortality % |
|---|---|---|---|---|---|---|
| Basal | 170 | 69.2 | 57.9** | 3.03 | 3.80 | 5.00 |
| Basal res. 10 lb./100 | 176 | 70.4 | 59.1 | 3.13 | 3.83 | 7.50 |
| 12% P./15% F. | 175 | 71.0 | 58.3 | 2.99 | 3.85 | 2.50 |
| 15% P./15% F. | 178 | 72.1 | 58.2 | 3.02 | 3.83 | 3.75 |
| 18% P./15% F. | 179 | 72.7 | 59.1 | 2.95 | 3.83 | 1.25 |

**Significantly lower at the .01 level of probability.

birds received the same all-mash cage layer diet. Performance during a 308-day laying period is given in Table 1.

### Second Year Trial

For a second year trial the fiber level was increased to 15% with rice hulls and three protein levels were used—12, 15 and 18%. The birds were fed a conventional, low fiber starter diet for 8 weeks, a low fiber grower diet from 8 to 14 weeks and the experimental diets from 14 to 22 weeks at which time the birds were all given an all-mash 18% protein cage layer diet. Data for the growing phase of the experiment are given in Table 2 and for the laying phase in Table 3.

It is obvious from Table 2 that limited feeding can reduce body weight and result in a feed saving during the rearing period. As shown in Table 3 the only significant effects that limited feeding or limited energy feeds had were a slight increase in size of eggs. The higher mortality observed for the birds on the low fiber diets was not statistically significant.

### Third Comparison

The results of a third experimental comparison of the effects of limited feeding vs. limited energy feeds on growing and laying house performances are given in Tables 4 and 5. For this experiment the birds were hatched Oct. 7, 1958, and were fed a low fiber, 21% protein starter diet to 8 weeks and from 8 to 21 weeks the same experimental diets and feeding programs as in Experiment 2 were used. Data for the growing period are given in Table 4 and for the laying period in Table 5. This experiment and a succeeding one are still in progress.

It is apparent from Table 4 that full feeding a 15% fiber growing diet requires more feed to develop a pullet and that the feed cost per pullet housed will be slightly more than for a conventional low fiber growing diet. Body weights are reduced slightly and mortality is not affected. Limited feeding on the other hand reduces body weight, reduces feed consumption and significantly lowers the feed cost per pullet housed. Mortality was increased due to severe nutritional stress on severely cold days. Supplementary feeding of 2-4 lb. of grain or mash per hundred birds on these days would probably reduce or eliminate this problem. The 10 lb. per 100 birds per day were adequate for spring hatched pullets but appear to be low for fall hatched birds.

As is evident in Table 5, limited feeding delayed sexual maturity eight days but had no effect upon egg size or mortality during the first six months of the laying period. Production for this period was slightly lower for the birds with limited feeding during the growing period, probably due to the later sexual maturity. The feed required per pound of eggs was slightly higher probably due to a greater gain in body weight and a slightly lower average rate of production. The limited energy diets had little effect on sexual maturity, rate of production, mortality, egg size, average body weight or feed required per unit of eggs.

### Fourth Experiment

A fourth experiment was started March 10, 1959, using 1,200 incross pullets. The design of the experiment

**TABLE 4. Effects of Limited Feeding Vs. Limited Energy Feeds on the Performance During the Growing Period of Egg Type Pullets**

| Growing diets | Body wt. 21 weeks lb. | Av. feed consumed 0-21 weeks lb. | Av. feed consumed 0-21 weeks cal. | Feed cost 0-21 weeks cents | Mortality 0-21 weeks % |
|---|---|---|---|---|---|
| Basal | 3.22 | 17.43 | 16,046 | 62.8 | 1.74 |
| Basal res. 10 lb./100 | 2.44 | 12.58 | 11,552 | 45.6 | 7.50 |
| 12% P./15% F. | 3.16 | 22.35 | 15,049 | 66.9 | 2.00 |
| 15% P./15% F. | 3.09 | 22.25 | 14,269 | 68.6 | 1.74 |
| 18% P./15% F. | 3.18 | 24.20 | 14,650 | 76.4 | 0.50 |

**TABLE 5. Laying House Performance for Six Months in Individual Cages as Influenced by Limited Feeding Vs. Limited Energy Feeds From the 8th to the 21st Week of Age**

| Growing diets | Age at 50% prod. days | Hen day prod. % | Av. egg weight gm. | Eggs 24 oz. & above % | Lb. feed/ lb. eggs | Average body weight lb. | Mortality % |
|---|---|---|---|---|---|---|---|
| Basal | 170 | 78.1 | 55.5 | 58.2 | 2.44 | 3.95 | 1.6 |
| Basal res. 10 lb./100 | 178 | 74.8 | 55.0 | 52.0 | 2.61 | 3.56 | 0.0 |
| 12% P./15% F. | 168 | 75.3 | 55.8 | 61.0 | 2.50 | 4.02 | 1.6 |
| 15% P./15% F. | 170 | 76.0 | 54.6 | 50.2 | 2.51 | 3.92 | 4.7 |
| 18% P./15% F. | 170 | 77.7 | 54.6 | 48.7 | 2.50 | 3.83 | 1.6 |

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TABLE 6. Effects of Limited Feeding Vs. Limited Energy Feeds on the Performance During the Growing Period of Egg Type Pullets

| Growing diets | Body wt. 21 wk. lb. | Av. feed consumed 0-21 weeks lb. | Av. feed consumed 0-21 weeks cal. | Feed cost 0-21 wk. cents | Mortality 0-21 wk. % | Days to 50% prod. |
|---|---|---|---|---|---|---|
| Basal | 3.12 | 17.4 | 15,957 | 64.9 | 5.0 | 168 |
| Basal res. 10 lb./100 | 2.72 | 13.9 | 12,720 | 53.1 | 2.5 | 178 |
| 12% P./15% F. | 3.02 | 21.9 | 15,015 | 67.9 | 2.5 | 174 |
| 15% P./15% F. | 3.06 | 22.5 | 14,716 | 70.9 | 4.5 | 174 |
| 18% P./15% F. | 3.02 | 22.0 | 13,765 | 71.0 | 3.5 | 171 |

and the rations were the same as those used for Experiment 3. Only the growing phase of the fourth experiment is completed at this time. Results are given in Table 6.

The body weights, pounds of feed consumed, feed cost, mortality and days to 50% production (Table 6) are very similar to those for the fall hatched birds. The spring hatched birds had slightly lighter body weights except for the birds restricted to 10 lb. per 100 birds per day. Here the spring hatched birds had considerably heavier body weights probably due to the lower energy requirements for maintenance because of the warmer temperatures. This substantiates the conclusion that the higher mortality of the fall hatched birds receiving limited feed may have been due to cold stress.

The days to 50% production tended to be slightly higher for the spring hatched pullets which may have been expected because of the differences in changing day lengths of the fall and spring hatched birds. Feed costs between spring and fall hatched birds are not directly comparable since they were figured on the actual costs at the time the experiments were conducted. In general, the figures for the spring and fall hatched birds are in remarkable agreement.

All of the data contained in Tables 1-6 are for light breed commercial egg production stocks and should not be applied directly to heavy breed broiler stocks.

**Tentative Conclusion**

Although some of the data have been reported in the nature of a progress report, sufficient work has been completed to support the tentative conclusion that a number of feeding programs can be relied upon to produce good pullets. Individual preferences and small savings in feed costs would probably be the determining factors in the choice of one of the three programs outlined earlier by a particular individual for a particular situation. For light breed egg production stocks the author would probably choose the high fiber program for colony cage rearing, the limited feeding program for spring and summer range rearing with good range cover, and the low fiber, full feeding program for confinement floor pens and for fall and winter brooding on the range.

Regardless of the feeding program used, the poultryman who develops and uses a good management program and who remains alert to the day to day and season to season changes in requirements of the birds will find adequate reward for his efforts.

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**CHICAGO — "Old MacDonald," a film telling of progress made in animal feeding and sponsored by the American Feed Manufacturers Assn., was telecast 122 times to an estimated audience of 2,954,364 persons during the 1959 months of February through July. Value of television time devoted to the film was said to be worth $14,498. The film was telecast by 115 stations throughout the nation.**

## Algae May Become Useful Products Source

WASHINGTON — The fresh-water algae which produce scum on farm ponds and lakes may eventually supplement food and forage products and become a new source of vitamins, animal feed, fertilizer and other organic products useful to man, according to new findings of U.S. Department of Health, Education and Welfare Public Health Service scientists.

Certain of the so-called good types of algae may prove useful in commercial products, according to findings recently reported in an illustrated manual, "Algae in Water Supplies."

Designed primarily for water plant operators, the manual identifies the types of algae associated with clean and polluted water, and explains how they may help or hinder production of good quality water.

The role of algae in sewage treatment has become increasingly apparent in recent years, according to the manual. With algae it is possible to support immense populations of aerobic bacteria, and thus accelerate the sewage stabilization process. It is the growth of algae developed in sewage stabilization ponds that advancing technology may some day be able to convert into useful products.

The new algae report is the result of an eight-year study by two scientists at the Public Health Service's Sanitary Engineering Center in Cincinnati—Dr. C. M. Palmer, algologist, and Harold J. Walter, biologist and artist. The 100-page study, with six color plates and many black-and-white drawings, is for sale for $1 by the Superintendent of Documents, Government Printing Office, Washington, D.C.

## Stock Promotion

RICHMOND, VA.—A campaign to sell $2,500,00 or more in new issues of 5% cumulative preferred stock has been announced by Southern States Cooperative. The co-op's bi-weekly bulletin, Service Guide, said the new issue is part of an over-all, long-range plan to provide Southern States with working capital needed within the next 10 years to meet members' demands for service.

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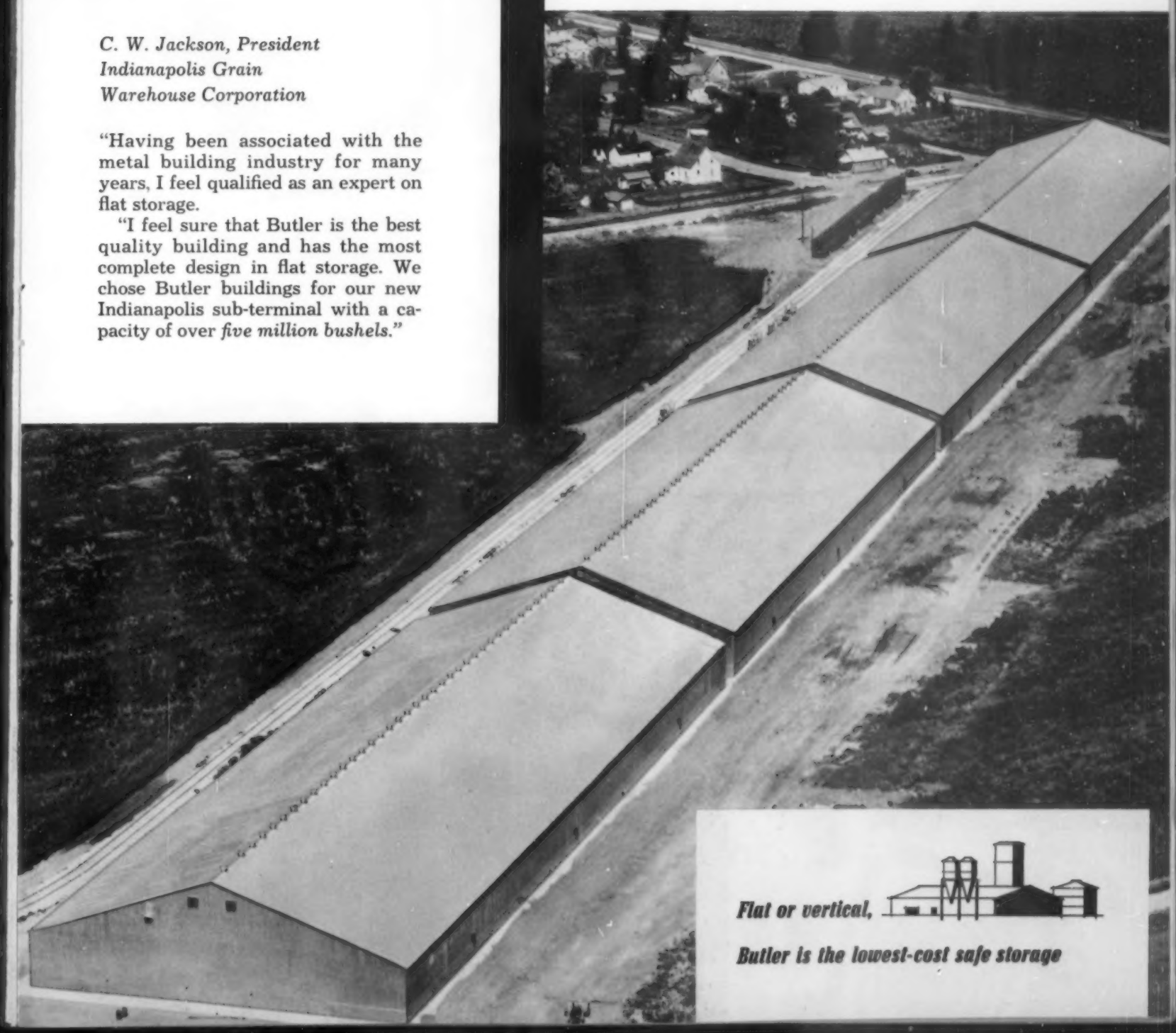

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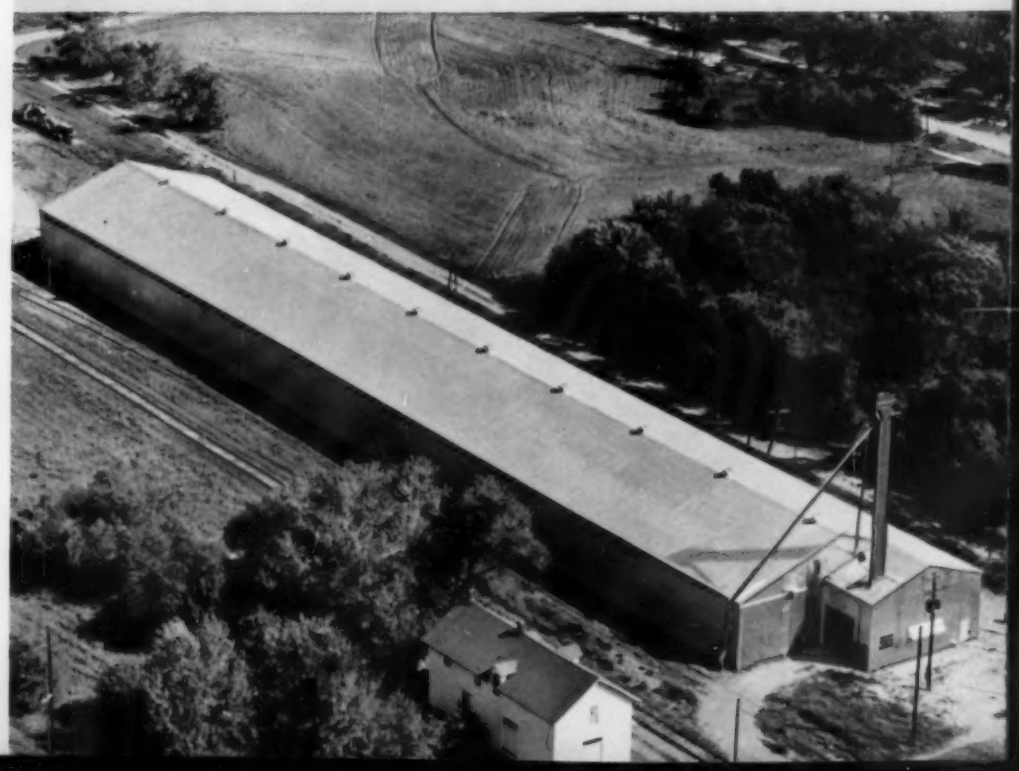

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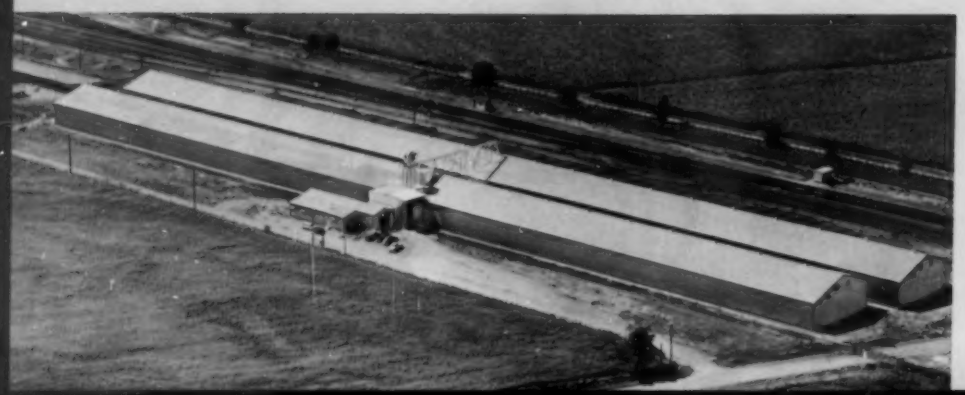

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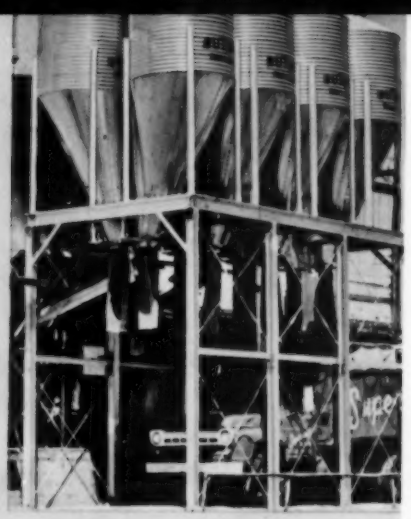

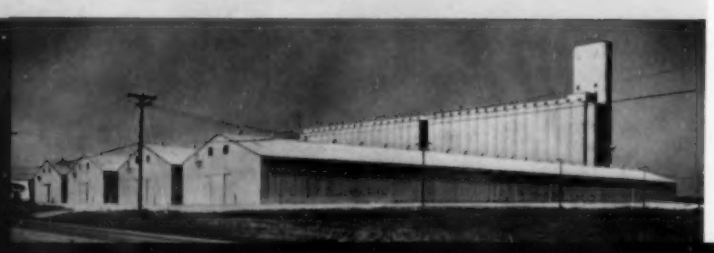

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Form No. 1836—10-59

Printed in U.S.A.

# '59 Corn Support Price Announced

WASHINGTON—The U.S. Department of Agriculture has announced that the national average support price for 1959-crop corn will be $1.12 bu., unchanged from the minimum "advance" support price announced Feb. 18.

This price reflects 90% of the average price of $1.25 bu. received by farmers for corn during the three calendar years 1956-58. Under a new corn program providing for the elimination of corn agreage allotments and the commercial corn-producing area, corn support prices are set at 90% of the preceding three-year average price of corn received by farmers, but not less than 65% of parity as of the beginning of the marketing year (Oct. 1).

The three-year average price is the basis for the 1959 corn support price because 65% of the October parity price (announced Sept. 30) of $1.70 bu. is $1.10 bu.—a lower figure. The average price used in the calculation is weighted to reflect monthly quantities of corn marketed, and also—as provided by law—"adjusted to offset the effect on such price of any abnormal quantities of low-grade corn marketed during any of such years."

Under the new corn program, corn produced anywhere in the U.S. in 1959 that meets quality and storage requirements will be eligible for support at the same national average level with adjustments for grade, quality, location and other factors.

For the 1958-crop corn, price support to producers in the 26-state commercial corn-producing area who complied with acreage allotments was on the basis of a national average support of $1.36 bu. Producers in the remaining 22-state non-commercial area got support at 75% of the level of support for the commercial area. Producers in the commercial area who did not comply with acreage allotments received support at an average of $1.06 bu.

## *Central Soya Board Proposes Stock Split*

FT. WAYNE, IND.—The board of directors of Central Soya Co., Inc., Ft. Wayne, in a special meeting passed a resolution recommending to the shareholders a 2-for-1 stock split of outstanding shares as soon as possible after an increased number of shares are authorized by the stockholders and approved by the secretary of state.

The resolution asks for an increase in the authorized number of shares of the company from 2 million to 5 million, and will be voted upon at the annual shareholders meeting Nov. 4, 1959, in Ft. Wayne.

The directors recommended the increase in shares in order that they may be available for the proposed stock split, and for issuance from time to time as corporate needs may require. At the present time there are no plans for offering additional stock either to stockholders or to the public.

At the same meeting, the board of directors voted to increase the quarterly cash dividend from 50¢ to 55¢, payable Nov. 15 on stock presently outstanding to stockholders of record as of the close of business Nov. 2, 1959. This is an increase of 10%. Subsequent dividends declared at the same rate after the split would result in a quarterly cash dividend of 27½¢ per share on the new stock.

The directors also declared the intention of management to apply for listing of Central Soya stock on the New York Stock Exchange as soon as is practical after the November shareholders meeting.

## H. J. Baker & Bro. Urea Agent for Belgian Firm

NEW YORK—H. J. Baker & Bro., New York, has been appointed exclusive U.S. agent for the urea production of Comptoir Belge de l'Azote (Cobelaz), Brussels, Belgium.

In addition to supplying urea for fertilizer, feed and industrial users in the U.S., H. J. Baker will also serve for Puerto Rico, Cuba and the Dominican Republic.


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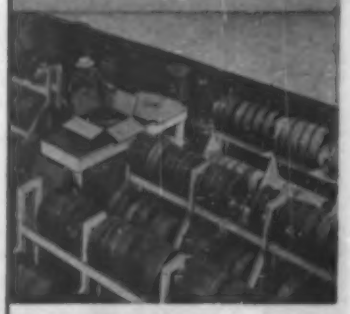

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Two CPM die factories keep production well above customers' needs to guarantee prompt filling of every order. Large warehouses at three "Main line" locations assure you of pellet mill service at its best!

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# Farm and Feed Salt

## Did you know?

- Since 1930, feed industry output as a whole has risen 175%. The industry is now producing at the rate of about 37,000,000 tons per year.
- Labor costs drop as dairy herds grow. USDA research shows farmers annually spend 129 man-hours per cow caring for a 10-cow herd. But a 30-cow herd needs only 80 man-hours per animal. Thus, a herd can be tripled in size, without even doubling labor costs.

# 4 benefits from using Sterling Blusalt in your fall feeds

Good results from your fall feeds are especially important. When customers see how well your feeds produce *at the start* of the feeding year, they'll rebuy regularly throughout the season.

One of the best ways to insure this heavy repeat business is to use Sterling trace-mineral Blusalt products formulated especially for feed mixing. You'll benefit in four distinct ways:

**1. Correct trace-mineral balance.** For better on-the-farm results, every Sterling Blusalt product contains the now-known correct amounts of 7 essential trace minerals (manganese, iron, sulfate sulfur, copper, cobalt, iodine and zinc) blended with salt, a natural carrier.

**2. Can be used safely with vitamin-fortified premixes and feeds.** The mineral compounds used in Sterling Blusalt products, under normal conditions, will not destroy the vitamin potency of the feed into which they are mixed.

**3. Cut production costs.** Whether you specialize in formula feeds or grist mixes, Sterling Blusalt products permit you to add both salt and vital trace minerals in *one* simple operation. No formula changes needed. Simply replace plain or iodized salt with one of the Sterling feed-mixing Blusalt products.

**4. Technical service and research with your salt.** At International Salt Company's Animal Nutrition Department, we do continuing research on the proper use of salt and trace minerals in modern livestock and poultry feeding programs. Results of this research are passed on to the feed trade in improved Sterling Blusalt products . . . and in comprehensive technical service on questions of feed mixing and feed formulas.

This research and service is yours to use *now* in preparing your fall feeds...or at any other time. Just ask your Sterling representative, or contact our nearest sales office.

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# STERLING SALT

MEMBER AMERICAN FEED afma MANUFACTURERS ASSOCIATION INC.

**SPEAKERS—Shown are three of the speakers featured at the First Annual Conference of the Sales Executives Council of American Feed Manufacturers Assn. held in St. Louis, Mo., recently. (Oct. 10 Feedstuffs.) J. E. Streetman (left), vice president, Ralston Purina Co., St. Louis, explained "The Marketing Concept"; R. D. Emmons (center), general sales manager, Wirthmore Feeds, Inc., Waltham, Mass., discussed "The Role of Salesmen in the Marketing Concept," and J. C. Huckabee (right), manager, feed sales, Quaker Oats Co., Chicago, explained "The Part Sales Management Plays in the Marketing Concept."**

## Winners of Pfizer Hog Feeding Contest Will Tour Europe

NEW YORK — Four midwestern hog producers and their feed suppliers will tour Europe this fall as winners of the recent national life cycle hog feeding contest sponsored by Chas. Pfizer & Co., Inc., New York.

The winning feed suppliers and the winning feeders are: Arnold Sukovaty, Wilber (Neb.) Coal & Feed Co., serving Willard Waldo from DeWitt, Neb.; Luther Stover, Stover Feed & Grain Co., Greenville, Ohio, supplying Philip Jordan, New Paris, Ohio; Professional Feeds division of Spencer Kellogg & Sons, Inc., Evansville, Ind., servicing Wayland Givens, Owensboro, Ky., and Robert Gallagher, Minnesota Farm Bureau Service, St. Paul, supplying Martin Annexstad, St. Peter, Minn.

The winning feeders were judged as champion hog raisers for their achievements in scientific hog feeding and management.

The hog producers and their wives will be given the expense-free trips. Accompanying the farm couples will be the four feed suppliers and their wives who enlisted the farmers in the contest.

Mr. Waldo raises about 400 hogs annually and operates on the Duroc Certified Meat Hog Program. His winning litter of 14 pigs averaged 193 lb. at 140 days for a daily gain of 1.56 lb.

Mr. Jordan markets about 3,000 hogs a year; last year 65% of all his hogs sold graded "meat-type" on a live basis. His winning litter averaged 1.57 lb. in daily gain over the 140-day feeding period, for a total average weight of 185 lb.

Mr. Givens produces about 1,400 hogs yearly, most of which go to commercial producers as breeding stock. His winning litter of 13 pigs finished out at 204 lb., averaging 1.7 lb. daily gain over the contest period.

Mr. Annexstad markets about 400 hogs a year. He utilizes meat-type boars from station-tested certified litters, and raised his winning litter to 140-day average weights of 188 lb.

The tour of Europe will include visits to a hog breeding-testing station, a look at a modern feed plant and tours of scientifically operated farms and leading farm research centers on the continent. The 10-day tour will also include sightseeing through Copenhagen, London, Hamburg and Paris.


Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR FOOTED ANIMALS

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EXTRA RICH FEEDS
ARE FAST SELLERS
PayWay Feed Mills, Inc.
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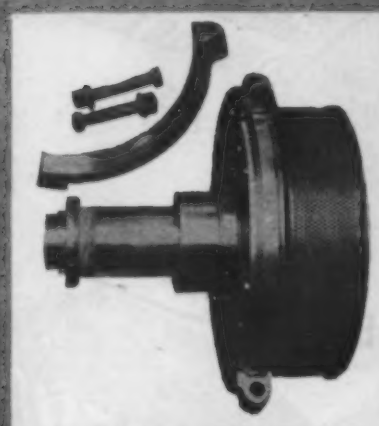

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NEW ASSEMBLY TO PREVENT PELLET MILL DIE BREAKAGE

New Stainless Steel quill assembly or bowl for 100 and 125 HP Mills.

Snap-in Keylock Replaceable Bushing eliminates studs and driving rim.

✓Replaceable drive key for die.

✓Two-piece clamp on front supports die.

✓Operates for a fraction of present maintenance cost.

✓Stainless steel construction retards corrosion . . . gives longer production life.

✓Four-section heavy clamp holds die firmly on quill . . . 45 degree angle holds radial thrust.

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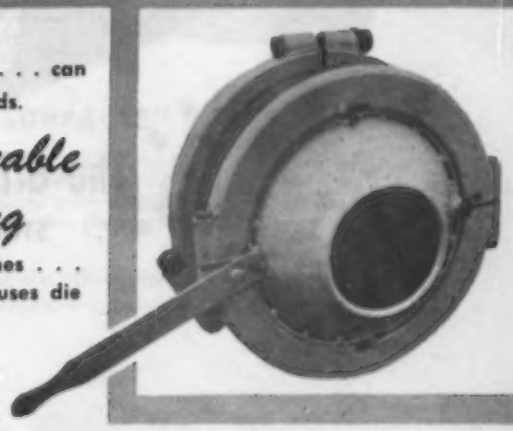
Economical . . . . Replaceable easy to install Bushing

. . . helps to maintain tight die fit at all times . . . eliminates flex of the die which eventually causes die breakage.



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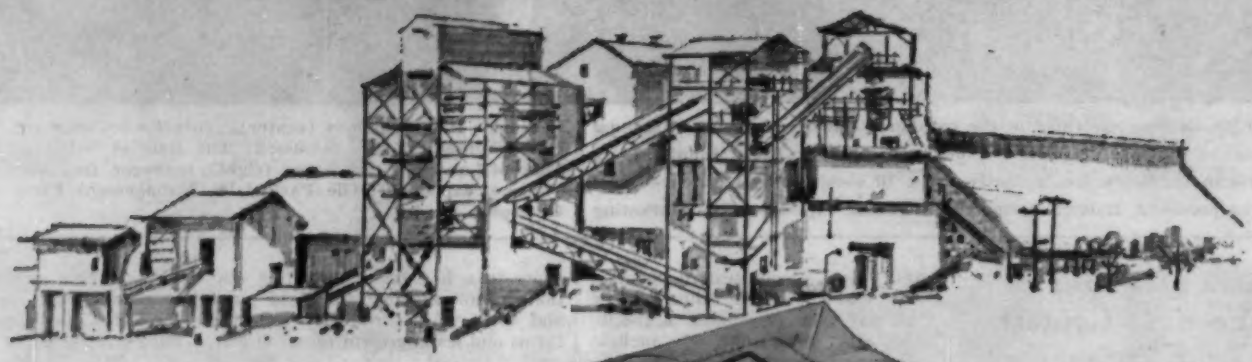
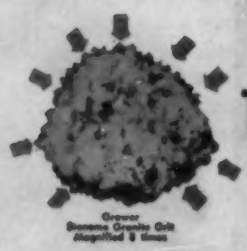
# ...helps Birds Produce More Eggs or Meat from their feed





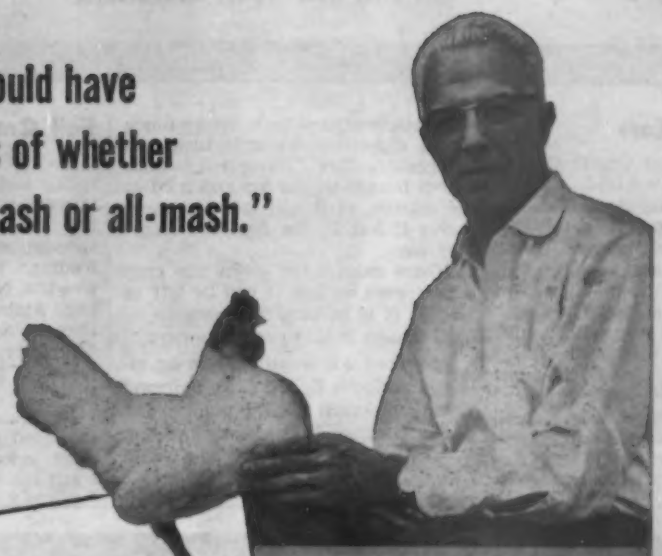
Grower
Stonemo Granite Grit
Magnified 8 times

## The Grit with the "EXTRA GRINDING SURFACES"

**STONE MOUNTAIN GRIT COMPANY, INC., Lithonia, Georgia**

# "Chickens of all ages should have insoluble grit regardless of whether they are on grain and mash or all-mash."

*says*
Monroe C. Babcock
*one of the nation's leading poultry breeders*



Monroe C. Babcock, above, holding a Babcock Bessie, speaks with authority gained from many years of practical knowledge in the feeding of Stonemo Granite Grit.

Below, a pen of 50 Babcock Research birds, part of the 62,000 wing-banded females in his breeding program.

**Babcock Poultry Farm, Inc.**
PHONE: 4-6504 • P.O. BOX 880 • ITHACA, NEW YORK • CABLE "BABCOCK"

February 10, 1939

Mr. Charles L. Davidson, Sr., President
Stone Mountain Grit Company, Inc.
Lithonia, Georgia

Hello Charlie:

Chickens of all ages should have insoluble grit regardless of whether they are on grain and mash or all-mash. I find some poultrymen think that birds on all-mash don't need grit. In my opinion all-mash isn't ground as fine as a chicken wants it to be for best digestion.

I like insoluble grit because it stays in the bird's gizzard longer and does the real work of grinding. Chickens of all ages just love to eat something hard. Insoluble grit satisfies this desire upon the part of the bird.

I'd rather get the calcium from first class oyster shells which the birds will eat to suit their "craving" for calcium.

We have used your Stonemo grit for many years. Our Babcock Leghorns like it and eat it with relish.

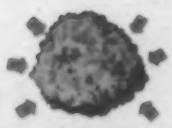
Good luck to you.

Cordially yours,
W. C. Babcock
Monroe C. Babcock

## STONEMO GRANITE GRIT

**The Grit with the "EXTRA GRINDING SURFACES"**

For fast, efficient feed conversion into *extra* eggs or *heavier* meat, follow the profit-tested STONEMO feeding directions... Feed Stonemo Starter (formerly fine) for first three weeks, Grower (formerly medium) from fourth until end of sixth week, Developer-Layer (formerly coarse) after the sixth week. STONEMO pays off in *extra* profits.



**STONE MOUNTAIN GRIT COMPANY, INC., Lithonia, Georgia**

# Feed Service BULLETIN BOARD

IDEAS TO HELP YOUR CUSTOMERS

## Corn Without Ears

Even short, earless drouth-stricken corn will make good feed.

From South Dakota State College comes the report that researchers have found that pound for pound, silage from a corn crop in which no grain was developed was higher in protein and nearly as high in energy values as from a crop with a full set of grain. Earless corn stalks compared favorably with other common forage feeds in protein, fat, nitrogen free extract and ash. And the feed from the immature corn contained considerably less fiber.

South Dakota scientists advise cutting drouth-injured corn before much of the digestible nutrients turn into undigestible fiber. "Harvest it at once if it is burned at the top and fired at the bottom, as it will lose too many leaves if left in the field too long," they say.

Where rains have given the crop a new lease on life, it can be left as long as it is making further growth, even though it isn't producing ears.

For those not wanting to make silage, the South Dakotans recommend cutting the corn with a binder, and drying it in small shocks, or mowing it and windrowing it just as would be done in handling hay.

## Fall Cattle Marketing

Because calves born in the late spring and summer are often too light in weight for profitable marketing in the fall, Alabama cattlemen are showing more interest in grazing and feeding these cattle to heavier weights. Normally, says R. C. Farquhar, Alabama Polytechnic Institute, they would be going to market now at lighter weights than the calves born last fall and winter and sold this summer.

Experiment station studies have indicated that farmers with a sufficient amount of high quality stored roughage such as corn silage or good fall and winter grazing crops can profit by carrying these cattle through the fall and winter months. The animals are then fed in the feed lot in the spring and early summer. Mr. Farquhar says many farmers over the state have followed this practice for a number of years and found it to be profitable.

Under normal conditions, cattle start grazing on small grains or other cool season forages around Oct. 15. This grazing continues until March 1 on small grains and perhaps to May 1-15 on clovers and winter grasses.

The animals should then be placed in the feed lot, Mr. Farquhar points out, and fed for approximately 90 days to the grades of high good and low choice. The feeding period depends largely on the amount of feed available, the grade of cattle coming off grazing, and the quality of cattle being used. Various substations have found that this phase of beef production has returned to labor $40-$75 above all costs. Mr. Farquhar adds that the profit depends largely upon the quality of grazing and the length of time the cattle graze.

◆

## Wintering Heifers

Producers feeding grain to heifers in a wintering, grazing and fattening program may be wasting their grain. This is the conclusion of a group of animal scientists at Kansas State University.

Reporting in the October issue of the Kansas Agricultural Situation, the Kansas researchers point out that heifers wintered on roughage, protein and a tenth of a pound of limestone daily sometimes returned more profit than heifers given grain. The grain-fed heifers usually were able to hit an earlier market than those not fed grain.

Following nine years of study, the scientists concluded that grain is not necessary in the winter ration of heifer calves on a wintering, grazing and fattening program if the heifers get good quality roughage and a protein supplement.

◆

## Ketosis in Cattle

Ketosis, a disease of dairy cows, is most likely to strike during the winter months. According to the Ontario (Canada) Veterinary College, ketosis is most commonly found in cows which are kept in the barn most of the time, and is found most often during the early lactation period. Usually the first visible signs of the disease are a general loss of weight and condition, and a drop in both quality and quantity of milk production.

Veterinarians report that a drug which has been used extensively in human medicine shows promise as a treatment for bovine ketosis. The drug which is a cortisone-like compound, is capable of bringing the blood sugar levels up to normal very quickly. This is usually followed by a return of the animal's appetite and a general improvement in condition.

◆

## Thin Eggshells

Paper-thin eggshells aren't necessarily the result of a poor laying hen ration. But they're probably an indi-

Best for you

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OYSTER SHELL

Through the years, PILOT BRAND Oyster Shell has been first choice with poultry raisers everywhere. That's because PILOT BRAND is almost 100 per cent calcium carbonate, the perfect eggshell material. Test after test proves that PILOT BRAND helps produce more eggs with stronger shells.

The big, day-in, day-out demand for PILOT BRAND means steady sales, fast turnovers, good profits for you. And we help keep customers coming your way with consistent national advertising in leading farm and poultry journals and on more than 70 prominent radio stations.

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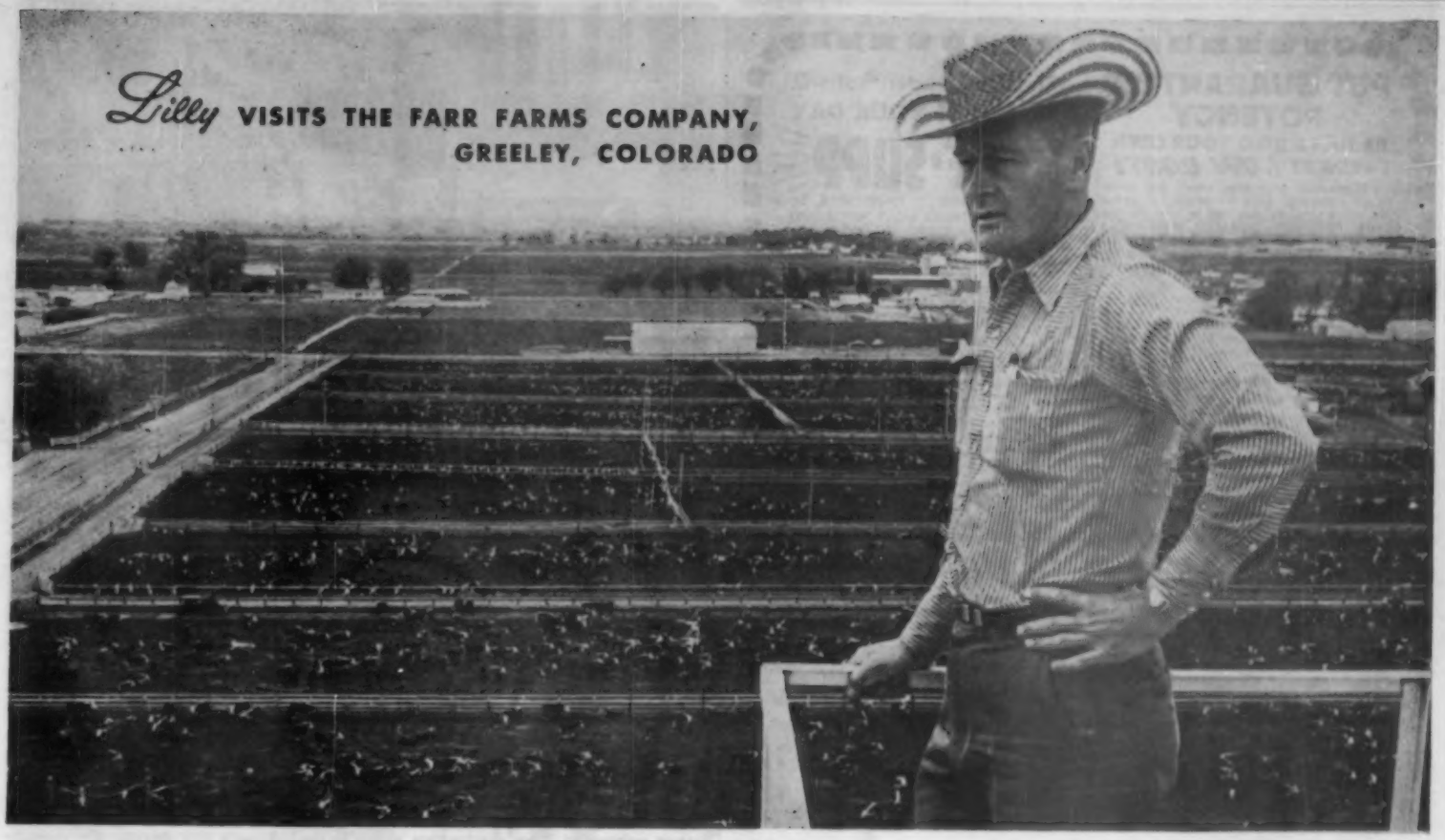


# "We've fed 70,000 steers and heifers on Stilbosol since 1955"

***"Our records prove it pays to feed Stilbosol every day to every head we can," reports feedlot manager-nutritionist. Detailed records back his story.***

by Eugene S. Hahnel

The famous Farr feedlots can fatten 10,000 cattle at one time. The day we visited with Dean Selleck, their livestock supervisor and nutritionist, 70% of the cattle on hand were market heifers.

"Stilbosol gives us excellent gains on heifers, too," Dean told us. "In fact, most of our cattle get Stilbosol rations every day they're here, up to 48 hours before slaughter. Since we first experimented with Stilbosol in 1955, we've fed it to more than 70,000 head. About half of those were heifers. Our records show the extra gains and greater feed efficiency . . . and Stilbosol has cut our cost of gain 12 to 15%."

When Dean speaks of records, he really means it. Three long pages of abstracts are kept on each lot. These records include every conceivable fact on the cattle from the time they're bought until they hit the market.

Before using Stilbosol, the Farr lots averaged 2 pounds daily gain on steers fed 120 to 140 days, and about 1.85 pounds on heifers. Now, with Stilbosol, they boost daily gains up to 2.5 pounds on steers, 2.25 pounds on heifers. "Those figures are conservative," Dean told us. ". . . that includes all the shrinks right up to the packing-house scales.

"With all this evidence in Stilbosol's favor, it looks like a fellow would have to be pretty backward not to feed it to *all* his market cattle *all* the time," Dean concluded. "You just can't overlook those extra gains and lower costs."

**Lilly SALES TIPS FROM GRASS-ROOT SOURCES**
**FARR FARMS CO., GREELEY, COLORADO**

Dean Selleck keeps page after page of records on each lot. He *knows* that it pays to feed Stilbosol—and his comments make a strong selling story:

1. **Stilbosol cuts cost of gain 12% to 15%.**
2. **Stilbosol-fed steers gain up to 1/2 pound more per head per day.**
3. **Stilbosol-fed heifers gain up to .4 pound more per head per day.**
4. **When possible, feed Stilbosol every day to every head for extra gains and lower costs.**

**Stilbosol®**
(diethylstilbestrol premix, Lilly)
Lilly

Stilbosol is Eli Lilly and Company's trademark for diethylstilbestrol premix which is manufactured and sold under exclusive license granted by Iowa State College Research Foundation, Inc., under its U.S. Patent No. 2731303.

Makers of HYGROMIX® (*S. hygroscopicus* fermentation products, Lilly) • Procaine-Penicillin-G • Vitamin $B_{12}$ • Micro-Pen® (special coated procaine penicillin G, Lilly)

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**RESULTS INTO YOUR OWN FEEDS AT *LOW COST!***

You'll increase your feed sales, get more repeat business, gain hundreds of satisfied customers, by cashing in now on the HIGH POTENCY VITAMIN FORTIFICATION TREND in feeds.

**JERSEE VITAL-MIN HAS NEVER FAILED TO GIVE GUARANTEED POTENCY RESULTS!**

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JERSEE VITAL-MIN

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The Calf Starter that will **BRIGHTEN YOUR DAY**

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**IT'S LICKIN' GOOD . . . PROFITABLE, TOO!**
YOU GET THE THREE MOST IMPORTANT CALF FOOD FACTORS IN CAF-SUPP!
Contains Guaranteed Levels of
● VITAMIN A ● VITAMIN D
● AUREOMYCIN

**Guaranteed Feeding Results!**
If you consider well these factors, you'll find you can't afford not to feed CAF-SUPP!
CAF-SUPP will brighten any dairyman's day. It's a dependable body building food, simple and economical to feed. Assures a definite return on your investment.

*WRITE TODAY FOR DEALER'S SALES HELPS! JOBBER AND DISTRIBUTOR FRANCHISES AVAILABLE!

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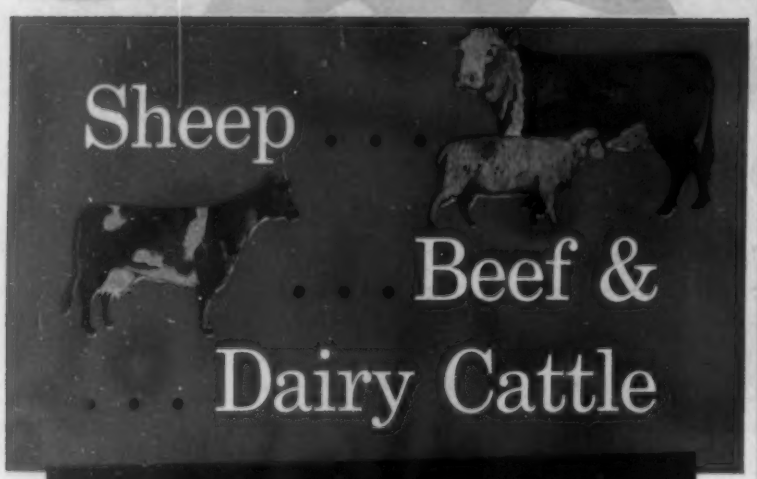
are here to stay for . . .




NATIONAL* Western Bentonite as the bonding agent makes them more profitable . . .

Manufacturers of complete pelleted rations . . . whether in the form of pellets or wafers . . . find their *best* and most *profitable* bonding agent to be NATIONAL Western Bentonite.

Feedlot operators admit the conventional methods of livestock feeding have become obsolete! A NEW method . . . the self-feeding of a complete pelleted ration to sheep, beef and dairy cattle is here to stay.

Take advantage of this ever increasing market for pelleted rations . . . fill in the attached coupon today for additional information on how NATIONAL Western Bentonite can be more profitable to YOU!

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A SUBSIDIARY OF NATIONAL LEAD COMPANY
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Please send me your latest literature.
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"EGGTOBER" THRIFTY RECIPE CONTEST
WIN trip to RIO DE JANEIRO for TWO via DELTA AIR LINES and REAL AIR LINES
Ask for RULES, in LOBBY!
"EGGTOBER" - a Salute to America's Egg Producers
DELTA
These EGGtober QUEENS are Internationally Famous HONEGGER LAYERS
Produced by
EXTRA-PRODUCTION LAYING FEED
1000 WEST EGG SAVINGS ACCOUNT

**"EGGTOBER" PROMOTION—A State Street egg laying contest in a Chicago bank window is one of several "Eggtober" promotions being sponsored jointly by Honeggers' & Co., Inc., Fairbury, Ill., radio station WLS, Chicago, Delta Airlines and a Chicago bank. Named Gina, Sophia, Marilyn and Jayne, each of the Honegger hens shown above is "sponsored" by a leading Chicago newspaper columnist. Egg production score is posted each day during the month-long competition. Other Chicago promotions included giving away 1,000 six-egg cartons to State Street shoppers, and a radio-promoted Eggtober thrifty recipe contest with a highly publicized cook-off to be held in the model kitchens of Chicago Federal Savings Bank. First prize is an expense paid trip for two to Rio De Janeiro.**

cation that the hens are too old to be kept in the flock. It's normal for eggshell texture to become thinner as hens get older. S. L. Davis, extension poultryman at the Alabama Polytechnic Institute, says. Some improvements are generally observed after the hens pass the molting period, but the decline in texture is even more pronounced during the second summer of laying.

Mr. Davis advises keeping oyster shell or limestone grit before hens laying thin-shelled eggs at all times. "It's also important," he said, "to be sure the laying ration is balanced."

The thin eggshell problem, plus disease hazards and loss of production in the second year of lay, makes keeping yearling hens more than 12-14 months an inefficient and unprofitable practice. It's best to dispose of old hens after they've reach 14-15 months of age, Mr. Davis advises.

However, some laying strains seem to hold up a little better than others in the production of good textured eggshells. Owners of hens laying thin-shelled eggs may want to investigate other laying strains.

◆

## Hypoglycemia in Pigs

Swine growers should examine newly born pigs this winter to be sure they have an adequate milk supply.

Dr. Jesse Sampson, University of Illinois veterinarian, says hypoglycemia, resulting from starvation, sometimes causes the death of entire litters of baby pigs. It occurs when sows fail to produce milk or cease production soon after farrowing, or when pigs stop nursing because of scours or digestive upsets.

Since it is difficult to know which pigs will develop hypoglycemia, Dr. Sampson advises examining each litter carefully every day during the first week after farrowing for signs of rough hair, lack of desire to nurse, listlessness and lowered vitality.

Chilling may increase the danger of hypoglycemia. Dr. Sampson says the use of heat lamps will prevent chilling and conserve sugar needed for energy. This will allow more blood sugar in the pig's system to help prevent hypoglycemia. When pigs show signs of hypoglycemia, veterinarians inject a sugar solution to restore the blood sugar level.

### OPEN HOUSE

WELLSBURG, IOWA — Snittjer Grain Co., Inc., held an open house here recently to display a new feed mill and bulk feed equipment.


**TRY THE COLUMBUS heavy duty industrial ROLLER MILL AT OUR EXPENSE!**

Endorsed by grain dealers, the Columbus heavy duty Roller Mill will roll all grains. Superior design, sturdy construction for years of profitable service.
Four sizes—300 bushels, 600 bushels, 900 bushels, 1200 bushels per hour, with or without electric motor.

**THREE MODELS:**
**Trailer, stationary or truck mounted**

Operate the mill 10 days. If not satisfied, return it. WE WILL REFUND YOUR MONEY AND PAY RETURN FREIGHT.
***WRITE FOR PRICES***

HENKE MANUFACTURING CO.
Columbus, Nebraska

DALE RAWLINGS
Owner

I sell Scotch O Lass because of its mixing qualities and because my customers like it best. It's my biggest seller.

# "My Customers want Scotch O Lass

DALE RAWLINGS FEED STORE
TONGANOXIE, KANSAS

**Here's a General Farm Store. Dale Rawlings has been in business in the same town for 40 years.**

**HE KNOWS THE FEED BUSINESS —**
**and he knows that it takes a fast moving — easy to sell product to make a profit.**

**Last year he sold over 65 tons of Scotch O Lass even though he has no mill or mixing equipment.**

**You Too Can Sell Scotch O Lass for Profits!**

**WRITE FOR COMPLETE DETAILS**

**YOU TOO CAN SELL Scotch O Lass ▶ FOR PROFIT**

**Vy Lactos LABORATORIES, INC.**

1901 East Euclid Avenue Des Moines 13, Iowa

# Patents Issued by U.S. Patent Office

*EDITOR'S NOTE: Following are descriptions of patents issued recently by the U.S. Patent Office. The issuance of these patents is reported in the Official Gazette of the Patent Office.*

v v

**2,906,621**

**Method of Feeding Young Mammals and Feed Materials for Use Therein.** Patent issued to Damon V. Catron, Ames, Iowa, assignor to Iowa State College Research Foundation, Inc., Ames, Iowa. Application made Oct. 20, 1955. A growth-accelerating feed for baby pigs, comprising a nutritionally-balanced baby pig feed composition containing an undegraded proteinaceous material as a principal ingredient in admixture with an active proteolytic enzyme, said composition being finely-divided and in a dry, free-flowing condition, whereby said proteinaceous material is substantially stable in the presence of said proteolytic enzyme.

**2,906,622**

**Production of Growth Stimulating Agents.** Patent issued to James C. Lewis, Berkeley, Cal., assignor to the United States of America as represented by the secretary of agriculture. Application made April 16, 1954. A process for preparing an animal feed which comprises incubating under aerobic conditions a nutrient medium inoculated with a strain of Bacillus subtilis selected from the group consisting of NRRL B-1467 and ATCC 6633, thereafter concentrating the resulting culture and admixing therewith an animal feed whereby said animal feed is enhanced with essential growth factors.

**2,907,658**

**Animal Feed Composition and Method of Feeding Said Composition to Animals.** Patent issued to Herbert G. Luther, Terre Haute, Ind., assignor to Chas. Pfizer & Co., Inc., New York, N.Y. Application made Sept. 13, 1957. An animal feed composition which comprises a nutritionally balanced feed together with ascorbyl benzoate.

**2,905,557**

**Feed and Process of and Apparatus for Producing Same.** Patent issued to Gilbert Degenhardt, Yount, Mo. Application made Nov. 7, 1955. The process of producing animal feed comprising feeding raw, fat-containing garbage to a grinder while concurrently draining said garbage of free liquid, soaking up the said free liquid with ground grain, grinding the raw garbage and the ground grain wetted with said liquid, mixing the ground garbage and grain together, conveying the mixture over and in contact with a hot bed, heating the mixture above the melting point of a substantial part of the fat contained therein; utilizing the fat to lubricate the hot bed, and drying the mixture, bringing the temperature of the mixture to that at which undesirable organisms are destroyed.

**2,905,558**

**Feed for Animals.** Patent issued to James William Adams, Schofield, Wis., assignor, by mesne assignments, to American Can Co., New York, N.Y. Application made April 12, 1956. A feed for animals containing, together with other components of such feed, between 1% and 25% by weight of metal salts of lignosulfonic acids and wood sugar acids derived from spent sulfite liquor and substantially free of lime-precipitable lignosulfonates and inorganic calcium salts.

**2,891,864**

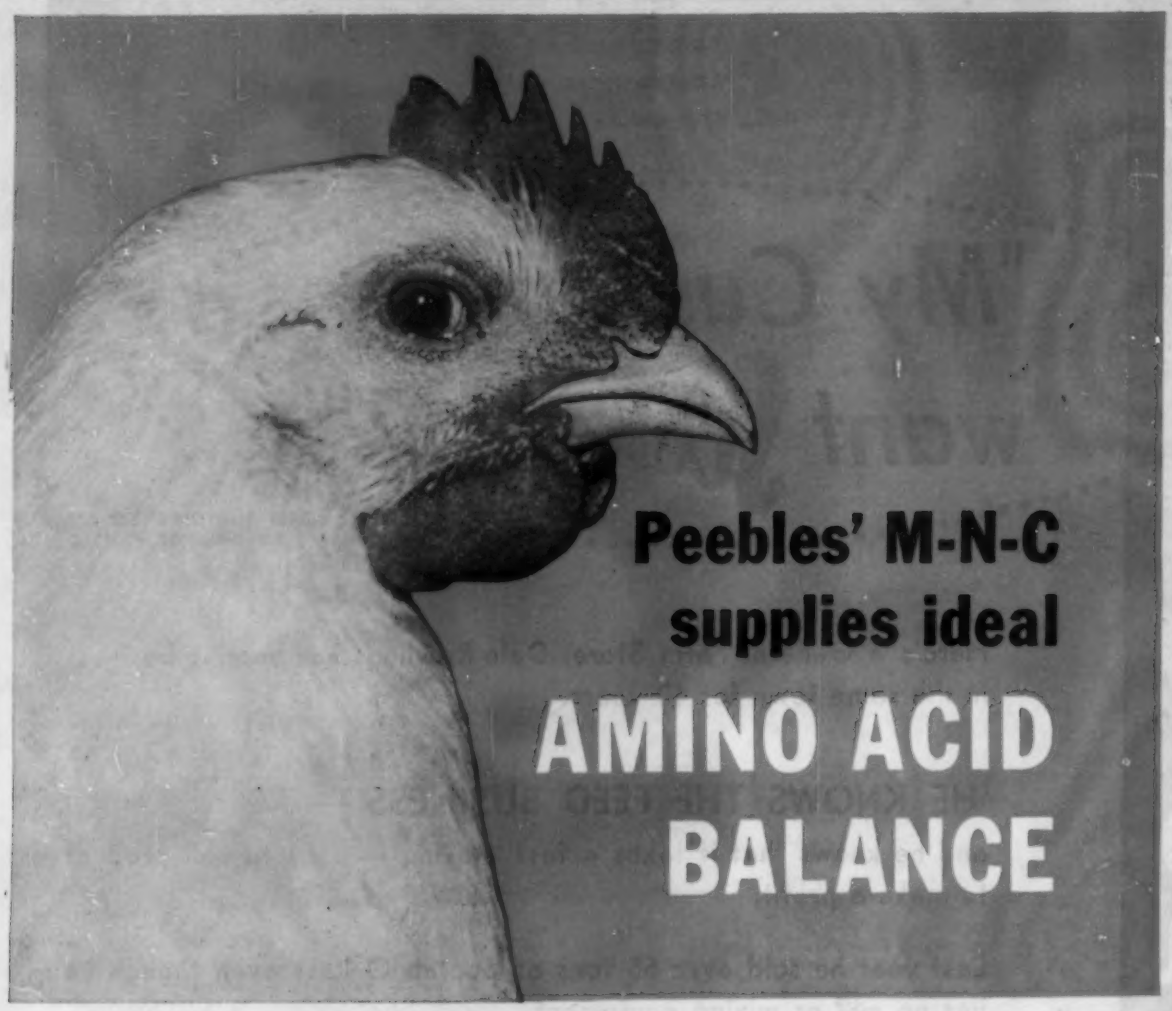
**Vitamin E Fortified Animal Feeds.** Patent issued to James G. Baxter, Rochester, N.Y., assignor to Eastman Kodak Co., Rochester, N.Y. Application made June 28, 1956. A composition for use in fortifying animal feeds comprising vitamin E active material prepared from a vegetable oil deodorizer sludge containing at least 0.2% by weight alpha-tocopherol by subjecting said deodorizer sludge under substantially anhydrous conditions to a lower acylation reaction effective to convert substantially all of the free tocopherol material in said deodorizer sludge to lower acyl tocopheryl esters, said lower acylation reaction being effected directly on said deodorizer sludge without removal of sterol materials, glyceride materials and free fatty acids naturally present in said deodorizer sludge, the said lower acylated deodorizer sludge being substantially uniformly blended with a dry, substantially inert, solid, and finely divided carrier material.

**2,890,980**

**Anti-Static Medicated Animal Feedstuffs.** Patent issued to Charles N. Hotchkiss, Park Ridge; Irving Klothen, Paramus, N.J., and John Charles Callahan, Blauvelt, N.Y., assignors to American Cyanamid Co., New York, N.Y. Application made Dec. 2, 1953. A medicated animal feedstuff comprising particles of an animal feed in uniform mixture with particles of a finely divided medicament, said particles of medicament having a particle size which will pass through a 360 mesh screen and being capable of retaining an electrostatic charge, said particles having a thin coating of a non-toxic, water soluble, surface active material possessing humectant and anti-static properties, dispersed as a thin coating on the surface of said particles whereby the development of electrostatic charges on said medicament particles and agglomeration thereof due to said electrostatic charges is avoided.

## Shipments of Canadian Formula Feeds Larger

WINNIPEG — Shipments of all types of prepared stock and poultry feeds were larger in Canada in July and during the January-July period this year than last. July totals, according to government reports, were: Primary or concentrated feeds, 38,105 tons (34,055 a year earlier); secondary or complete feeds, 223,198 tons (213,685), and all "other" animal feeds, 47,085 tons (43,645). January-July totals: Primary feeds, 264,195 tons (240,448 a year ago); secondary feeds, 1,507,389 tons (1,377,536), and all "other" animal feeds, 317,616 tons (298,071).


**Improves nutritional value and feed performance!**

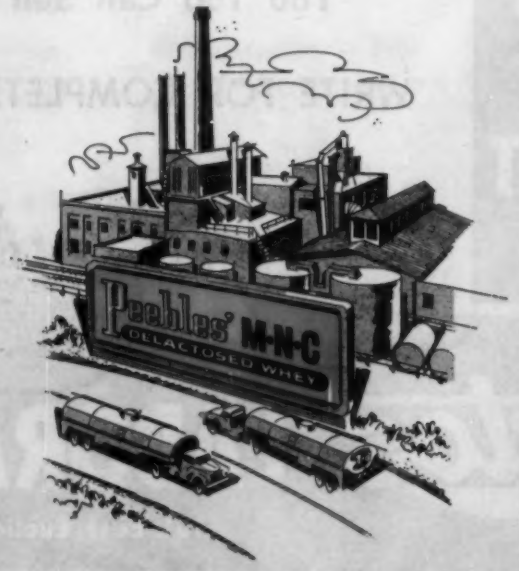
Here's the best way to step up the efficiency of your broiler feeds. Incorporate Peebles' M-N-C (partially delactosed whey-product). For M-N-C gives you the vital amino acid balance that makes protein function with maximum effectiveness. M-N-C offers you the perfect, low cost source of the 12 essential amino acids.

In addition, M-N-C is concentrated to give you, pound for pound, 50% more non-lactose nutrients. Just 2% M-N-C supplies the same amount of Whey factor and other growth-promoting elements as 3% whole dried whey.

Peebles' exclusive spray-dried process assures uniform high quality. M-N-C's smooth, even texture provides uniform color and even distribution in mixed feeds.

Find out how M-N-C can answer your amino acid requirements and give your feeds added nutritional value. Write or wire today for complete information.

**WESTERN CONDENSING COMPANY**
**APPLETON, WISCONSIN**
*World's Largest Producer of Whey Products*




**32 PLANTS** *Coast to Coast*

Dr. Salsbury's Laboratories—the Scientific Approach to Poultry Health Problems

# Dr. SALSBURY'S 3-NITRO® Powder can help your feeds boost egg production—and profits!

## SCORES HIGHEST ON THE PROFIT TEST

Egg producers are pretty well agreed that 3-NITRO* is the arsenical of choice—it **reduces flock depletion, increases feed efficiency** and **egg production.** Many have also learned that it scores highest on the "profit test." That is, they make more money with 3-NITRO in their layer rations. Records indicate that 3-NITRO birds need ¼ lb. *less feed* per dozen eggs. This means greater efficiency—and greater customer satisfaction—with layer rations containing 3-NITRO. Used at the rate of only 1 lb. per ton of all-mash ration, 3-NITRO adds important benefits for only pennies per layer per year. That's why poultrymen who use it say, *"No other feed ingredient does so much—and costs so little—as 3-NITRO."*

*Contains 3-Nitro-4-Hydroxyphenylarsonic Acid*

## "5% MORE EGGS, DUE TO 3-NITRO"

Here's what a prominent Southeastern egg producer (name on request) says about 3-NITRO: "We are now getting at least 5% more eggs, due to Dr. Salsbury's 3-NITRO in the ration. Also, we observe a lower mortality rate and more alert, better-looking birds."

These growers, like thousands of others, have discovered that 3-NITRO scores highest where it counts most: **On the profit side of their record book.** That's the test that really counts. And that's why you'll want 3-NITRO in all your layer feeds. Whether they've got 500 hens or 100,000, 3-NITRO can build bigger egg profits for your customers, too!

Because of the continuing importance of good flock husbandry, current Dr. Salsbury consumer advertisements carry this message: PROPER MEDICATION IS ONLY ONE PART OF GOOD FLOCK MANAGEMENT. FOR BEST RESULTS, PRACTICE SOUND FEEDING, HOUSING, SANITATION AND PEST CONTROL.

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MIDWEST GREEN BANNER DEHY

DEPENDABILITY... in Quality and Service

# UP OR DOWN

By Dr. Leonard W. Schruben, Agricultural Economist, Kansas State College

## Feed Concentrate Supply For 1959-60

American farmers have done it again! A new record for corn production will go on the books this year. What does this mean in terms of price patterns this year?

The supply of concentrates including feed grains is expected to total 1.48 tons per grain consuming animal unit (this means the feed equivalent for a dairy cow for one year). This past year a record amount was fed per animal unit and it totaled only .89 ton. This means there is approximately one-half ton of concentrate per animal unit in the U.S. that will be carried over into the 1960-61 feeding season after this season is over.

What to do with this tremendous grain supply has many people puzzled and undoubtedly these questions will come in for much debate in and out of Congress next year.

Feed grain production in the U.S. is shown in Exhibit 1. We have converted bushels to tons for easy comparison. Here you can see the build-up in supplies since World War II. You will note that the tonnage being produced this year exceeds the previous record set only last year. The decrease in grain sorghum, oats and barley production as compared with 1958 crops has been more than offset by the increase in corn production.

You can get a long range picture of where we stand on feed grain supply by looking at Exhibit 2. In this exhibit you will see that the supply per grain consuming animal unit has gone up from .80 in 1926 to 1.48 for the feeding season beginning Oct. 1, 1959. You can see that there have been some ups and downs in the concentrate supply over the years but there has been a steady increase since the early 1950's. Where this will stop is anybody's guess at this point.

Feed grain prices are expected to follow 1958 patterns fairly closely. Grain sorghum, however, is expected to be somewhat higher; therefore, you should check the possibility of including grain sorghum in your farm feed formulas. We will take a more detailed look at each grain in following issues.

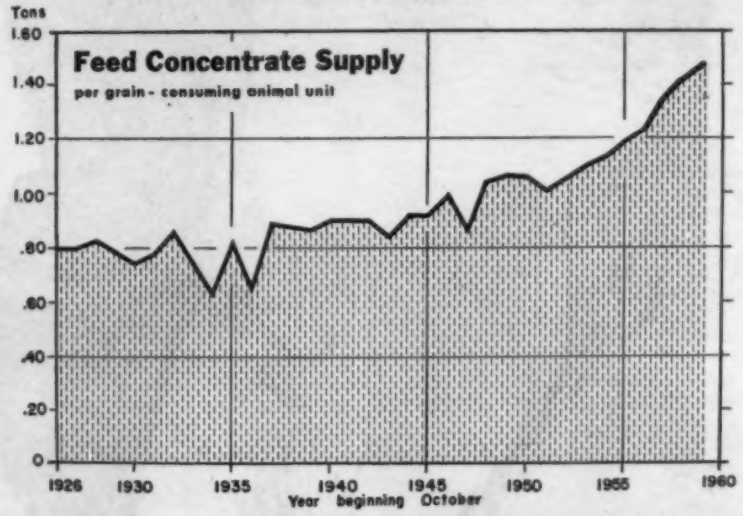
**EXHIBIT 1. Feed Grain Production**

(Tons, 000's omitted)

| | United States | | | | |
|---|---|---|---|---|---|
| Year | Corn | Sorghums | Oats | Barley | Total |
| 1945 | 80,300 | 2,700 | 24,400 | 6,400 | 113,800 |
| 1946 | 90,100 | 3,000 | 23,600 | 6,300 | 123,000 |
| 1947 | 65,900 | 2,600 | 18,800 | 6,800 | 94,100 |
| 1948 | 100,900 | 3,700 | 23,200 | 7,600 | 135,400 |
| 1949 | 90,700 | 4,200 | 19,500 | 5,700 | 120,100 |
| 1950 | 86,100 | 6,500 | 21,900 | 73,000 | 121,800 |
| 1951 | 81,900 | 4,600 | 20,400 | 6,200 | 113,100 |
| 1952 | 92,200 | 2,500 | 19,500 | 5,500 | 119,700 |
| 1953 | 89,900 | 3,200 | 18,500 | 5,900 | 117,500 |
| 1954 | 85,600 | 6,600 | 22,600 | 9,100 | 123,900 |
| 1955 | 90,400 | 6,800 | 24,100 | 9,600 | 130,900 |
| 1956 | 96,700 | 5,800 | 18,600 | 9,100 | 130,200 |
| 1957 | 95,800 | 15,800 | 20,800 | 10,500 | 142,900 |
| 1958 | 106,400 | 17,200 | 22,800 | 11,300 | 157,700 |
| 1959* | 122,700 | 15,800 | 17,200 | 9,800 | 165,500 |

*Preliminary estimates based on indications in September "Crop Production."
Source: Grain and Feed Statistics.

**EXHIBIT 2. Feed Concentrate Supply, U.S., 1926 to Date**



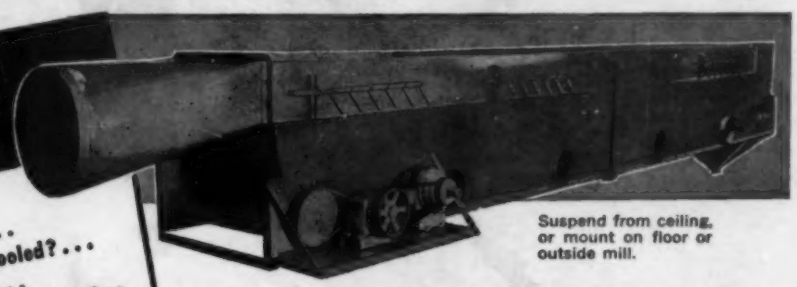

## Cage vs. Floor Tests

NEWTON, MISS.—After a four-year study, researchers at the Coastal Plains Experiment Station of Mississippi State University have concluded that there is a slight advantage in using cage instead of floor plans for layers—but the cages involve a larger investment. The mortality rate of floor birds in the Mississippi tests has run consistently 3-5% higher each year than for the caged layers.

Pellet Cooling Problems?

- Too many fines?...
- Pellets hang up in cooler?...
- Larger cubes inadequately cooled?...
- Uneven cooling of pellets?...
- No satisfactory control of retention time of pellets in cooler?

WENGER HORIZONTAL PELLET COOLERS are the answer TO PERFECT COOLING OF HARD-TYPE PELLETS!



Suspend from ceiling, or mount on floor or outside mill.

Wenger Horizontal Pellet Coolers carry the pellets through a bath of exhaust air on an endless wire mesh belt that handles pellets from 3/16" to range cube size. Variable speed drive on conveyor provides necessary speed variation for best cooling and moisture control of different size pellets. With no vertical movement of pellets and no baffle plates in cooler, ratio of fines is greatly reduced. Cooler can be suspended from ceiling or mounted on floor. Also available in two-stage superimposed coolers, delivering pellets immediately under intake of upper cooler. Built in 14, 18, 24 and 30 ft. lengths . . . capacities of 3 tons to 30 tons per hour.

*Write today for complete information*

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SABETHA, KANSAS Phone 111

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## takes the waste out of phosphorus feeding

- **Ends the need to add unnecessary margins of safety**
- **Proves that all chemically processed phosphates are not alike**
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- **Makes feeding recommendations based on phosphates of low availability out-of-date**
- **Provides proven high phosphate availability with low calcium content**
- **Makes it unprofitable to over-fortify with phosphates of low availability**

Buying "second best" feed phosphates to cut formulation costs is false economy. Second best or low cost sources actually waste phosphorus because much of the phosphorus isn't available—can't be used by livestock or poultry.

This makes feeding inferior phosphates an expensive business, especially when compared with the readily available phosphorus provided by International's Dynamic DYNAFOS.

Biological availability tests prove DYNAFOS is today's superior dicalcium phosphate. It is chemically processed and purified . . . low in calcium too. DYNAFOS delivers more available phosphorus in every pound—out-performs phosphates of low availability even under practical conditions . . . ends the need to add unnecessary margins of safety.

You cut formulation costs because you actually need less Dynamic DYNAFOS. And unique beaded form makes handling and mixing better than ever. Write or wire your International representative for details.

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**INTERNATIONAL MINERALS & CHEMICAL CORPORATION**

*Administrative Center: Skokie, Illinois*

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THE TRICK: *Supplying you with dehy at the exact protein level, vitamin content and fiber level you want—at times when you can't obtain it elsewhere.*

THE TREAT: *Personal attention by the head of the firm to every shipment of meal, large or small.*

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This particular trick-and-treat combination is something you can obtain only from a Key dehydrator—for only members of the Key group offer *both* complete facilities for gas storage, automatic blending, oil treatment, pelleting, grinding and bulk shipment *together with* personal supervision of every order by the Key individual who owns or operates the firm. Next time you buy alfalfa meal, specify one of the Key dehydrators listed below.

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Alfalfa Dehydrators

**Al-Fa Meal Co.**
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**Central Alfalfa, Inc.**
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**Hanna & Lamb Milling Co.**
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**Iowa Valley Milling Co.**
Iowa City, Iowa

**Kaw Dehydrating Co., Inc.**
Topeka, Kansas

**Prairie Dehydrating Co.**
Roanoke, Illinois

**Progress Products Co., Inc.**
Overton, Nebraska

**Sioux Alfalfa Meal Co.**
Vermillion, South Dakota

**Trico Feed Mills**
Minden, Nebraska

**Wraybill Dehydrating Co., Inc.**
Sloan, Iowa

**SHOW OPENED WITH SCISSORS**—William L. Henning, Pennsylvania's secretary of agriculture, is assisted by Janet Williams, state poultry queen, in clipping the ribbon that formally opened the recent 22nd exposition of the Northeastern Poultry Producers Council at Harrisburg, Pa. Others are: Richard I. Ammon (left), Neppco executive secretary; Lawrence Keggereis (next to Miss Williams), Palmyra, Pa., president, Pennsylvania State Poultry Federation, and Ernest F. Smith, Jr. (right), Kenton, Del., Neppco president.

# Neppco Shuns Government Aid; Launches Program of Self-Help

HARRISBURG, PA.—Rather than turning to the government to solve the problems of the poultry industry, the Northeastern Poultry Producers Council has shown strong preference for the industry developing its own solutions. This stand was established at Neppco's annual exposition here when Richard I. Ammon, Neppco executive secretary, outlined the council's new long-range action program, and Neppco officials announced that surveyed northeastern poultrymen had voted strongly in favor of a "hands off" government economic policy. (Another story on the Neppco convention appears elsewhere in this issue.)

Neppco's board of directors, meeting just before the Oct. 6-8 exposition got underway, reaffirmed its fundamental policy of opposing production controls and subsidies, making two major amplifications of current policy. The board spelled out its sharp opposition to the "unbusinesslike" extension of industry credit and urged that emphasis be shifted from expanding production to cutting unit costs.

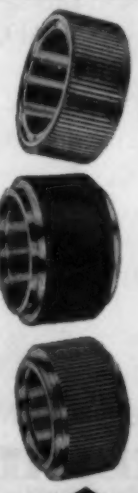
The directors stated their position this way: "National farm policy has always been: 'Produce two where one would grow.' It should be switched to: 'Market two where one would go'."

Mr. Ammon said a closer working relationship with other groups will get top priority in Neppco's new action program, which has two basic phases, one of internal reorganization and the other external in nature.

"We need to get all these heterogeneous groups working together and pulling in the same direction," Mr. Ammon told his audience. "The weak sisters and the strong sisters, the under-organized and the over-organized, the Indians and the chiefs, should be working for each other rather than against each other."

Neppco's program is to include these steps:

- Formation of a study committee to work with the American Feed Manufacturers Assn. to study the problem of contracting, integration and feed industry financing and to explore possible solutions.
- Similar consultation with the merchandising side of the industry through such groups as the National Association of Food Chains.
- Development of a fowl export program, already underway.
- Improvement in egg and broiler price reporting.
- Formation of Neppco egg and broiler divisions.
- Increased legislative activity on state and national levels.
- Closer working relationships with

FOR THE
LONG RUN

*Let us hardface your pellet rolls, or replace them with Perma-Weld Inlay pellet rolls—so easy on the die.*
*Improved tonnage will easily repay the cost.*
*We specialize in hardfacing of collars and retaining rings . . . Increasing oil seal life.*
*We're equipped to meet your exact requirements . . .*
*Ship your used roll assemblies freight collect for new roller shells and replacements of worn parts.*
*We pay the freight BOTH ways.*
PERFORMANCE GUARANTEED
*For replacement parts or complete new assemblies*

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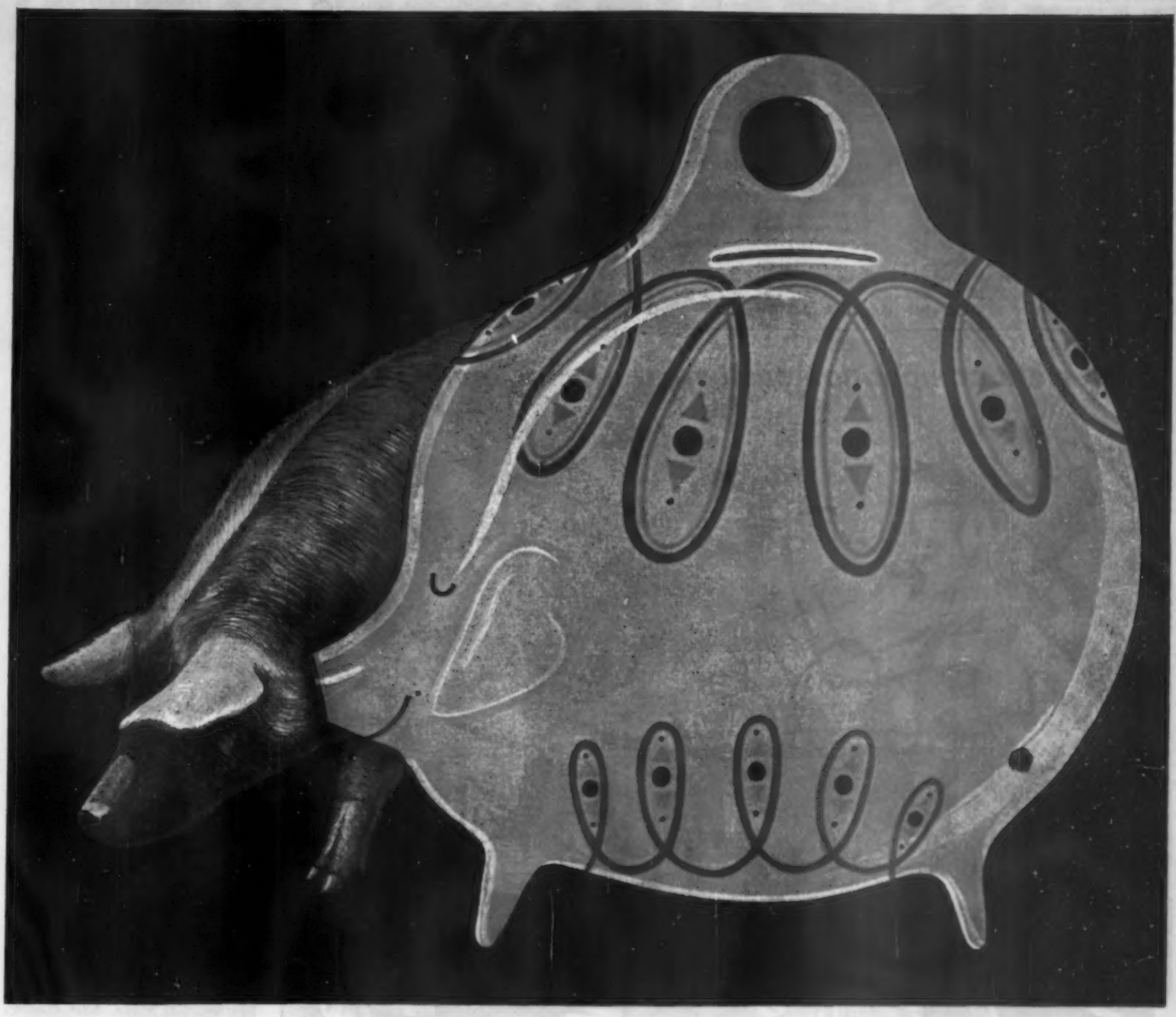
# FEED ADDITIVES



## Pigs or piggy banks getting your profits?

*Switch to* **DOWZENE DHC**

*proved worm control in one day's ration*

With Dowzene® DHC in your feeds, you offer a proved worm control in *one day's ration!* And that means profit for you and your customers.

*Dowzene DHC effects significant savings* in worm-control costs (a particularly important feature in a year of depressed hog prices) . . . and offers many advantages over other wormers. Dowzene DHC is palatable, safe, easy to use . . . does not interfere with feed conversion or daily gain. Dowzene is safe for poultry, too!

Dowzene DHC keeps inventories in line. With Dowzene, you reduce your inventory of additives and specialty feeds . . . keep finished feed costs in line for sales and repeat sales. You win steady customers for more benefits at less cost.

For detailed information and prices, write to THE DOW CHEMICAL COMPANY, Agricultural Chemicals Sales Dept. 251BF10-24 Midland, Michigan.

**THE DOW CHEMICAL COMPANY · MIDLAND, MICHIGAN**

state organizations that make up Neppco.

**Poll Results**

Conventioners were told that 81.7% of the replies to a recent Neppco poll of poultry producers in 14 northeastern states were in favor of a free market system, with little or no aid from the government.

Of this 81.7%, Neppco officials said, 62% of the group said they were in favor of all-out resistance to federal subsidies and controls of every kind. The remaining 19.3% voted for a free market system, but would agree to possible government price supports at levels below the cost of production.

**Regional Competition**

In his talk on regional competition in broiler and egg production, Chester M. Kessler, eastern sales manager, Allied Mills, Inc., remarked, "Weighing all of the production factors, it is felt that broilers can be produced in the East within 1¢ lb. of the cost in the south. Nearness to the 54 million population in the 13 eastern states offsets most or all of this difference."

It was Mr. Kessler's opinion that contracting has the advantages of uniform supply, controlled production and benefits of volume purchases, but noted also that contracting has these disadvantages: "Penalizes the efficient grower, subsidizes the inefficient grower, works contrary to the law of supply and demand, becomes a contest among contractors to see who will bid the most and the opportunity for profits by contractors on high markets is narrow in proportion to the opportunity for losses on low markets."

Mr. Kessler offered these recommendations:

"1. Realistic discussions between processors (egg and broiler), hatcheries, feed people working from the market back to the producer to find the combination that will compete cost-wise with the South.

"2. Awareness on the part of all parties that no segment of the industry can hold the umbrella over the rest.

"3. Recognition of the efficient producer by allowing him to compete with other efficient producers rather than have his market be oversupplied by birds or eggs contracted beyond the law of supply and demand.

"4. Continued emphasis on the production of more corn in the east.

"5. Continued pressure by all segments of the industry for reduction in rail rates to the east."

**Questions for Answering**

Dr. H. M. Love, head, department of agricultural economics and rural sociology, Virginia Polytechnic Institute, advised members of his Neppco exposition audience to answer the following questions in determining "who shall run your business":

"1. Do growers understand what they are asking for through legislation?

"2. Are growers really tired of change, growth, progress and the opportunity for profits at the risk of a loss?

"3. Are producers afraid to let consumers set prices in the market?

"4. Are growers tired of their individual responsibilities that go with democracy and a competitive price economy?

"5. Do producers really want to shift their responsibilities to others who will plan their destiny for them according to some uniform plan that fits none?"

**Election of Officers**

Ernest F. Smith, Jr., Kenton, Del., was reelected Neppco president for a second-term at the organization's annual convention.

Picked as vice president of the council was Carroll Dunham, Southbury, Conn., poultryman. He replaces Warren W. Hawley, III, Batavia, N.Y., who resigned.

Russell Sturtevant, Halifax, Mass., was reelected secretary of the council, and James C. Weisel, Rosemont, N.J., was reelected treasurer.

Mr. Smith was officially named as a director-at-large, permitting his home state of Delaware to elect a director. Harold Klahold, Preston, Md., was reelected as director-at-large.

**Salesmen Recognized**

Three sales representatives of commercial firms exhibiting at the exposition were honored at Neppco's annual banquet.

Singled out as being the most courteous, friendly and helpful were Gerald Malone, Englehard Industries, Inc., Newark, N.J.; Floyd Smith, Hubbard Farms, Inc., Lancaster, Pa., and Carroll Frock, Beacon Steel Products Co., Westminster, Md.

## Merck Announces Fall Promotion Program

RAHWAY, N.J. — "Animal health product dealers will have an opportunity to participate in a special Merck & Co., Inc., 'Sulfastrep' and 'S.Q.' fall deal at a 40% profit," according to a company announcement.

"Savings of 16-25% will be passed on by the retailer to livestock owners who purchase 'Sulfastrep' Boluses, 'S.Q.' Boluses, 'S.Q.' Tablets between Nov. 2 and Dec. 18.

"Merck's deal will be backed up by a strong advertising and promotion support, designed to encourage fast turnover and increased consumer demand." Directing its appeal to the ultimate consumer, Merck offers a free package of 'Sulfastrep' Boluses, 4 gm., with the purchase of five packs."

In the "S.Q." line, blister packs of five and nested cartons of 50 16 gm. boluses will sell for four at the price of three; "S.Q." Tablets, 1.62 gm., will be offered at four for the price of three in blister packs of 10's and bottles of 100's.

"Sulfastrep" is used in treatment of calf scours, bacterial diarrhea of swine and metritis in cattle. "S.Q." Tablets are designed for treatment of coccidiosis in cattle and calves, while "S.Q." Boluses have application in the treatment of foot rot, shipping fever, winter dysentery and pneumonia in cattle.

Special kits with orange-red and white fluorescent market flags are being distributed to dealers.

## Egg Production Boost

RALEIGH, N.C. — Commercial egg production in North Carolina for August was 12% above the record set last year. According to the North Carolina State Department of Agriculture, egg production in August amounted to 175 million, up from 140 million, last year's record breaker. The number of hens and laying pullets on North Carolina farms was also above the same period reported for last year—9,566,000 compared to 8,910,000 last year. The rate of egg production was 1,640 eggs per 100 layers, compared with 1,575 a year ago.


*to meet competition easily and economically . . .*

CK Econoloc

**Don't Mix Without**

**(Soyoil and lecithin concentrated on Soymeal)**

Once increased fat content in rations was out of reach of many mills because of costs and difficulty of handling. No more.

New Econoloc is easy to use—without mess and without special equipment. It is ready to use, a granular free flowing source of vegetable fat (lecithin, Vitamin E, and Tocopherol) for all livestock and poultry feeds. Its odor is pleasant, its quality uniform.

Here's the economical way to provide your customers feeds with all the health and palatability advantages found in increased fat content. Comes packed in 50 lb. moisture-resistant bags.

Better get the full story and the good news about Econoloc's price today.

Econoloc

Is another champion from the CK line of feed ingredients which also include

- Econolass — Blackstrap molasses dehydrated on Soymeal.
- Econosol — Fish solubles dried on soymeal.
- New Econoferm — Multiple cultured product absorbed on soymeal.

CK Processing Company

THE BEST FRIEND YOUR FEED HAS EVER HAD!

# ANNOUNCING:

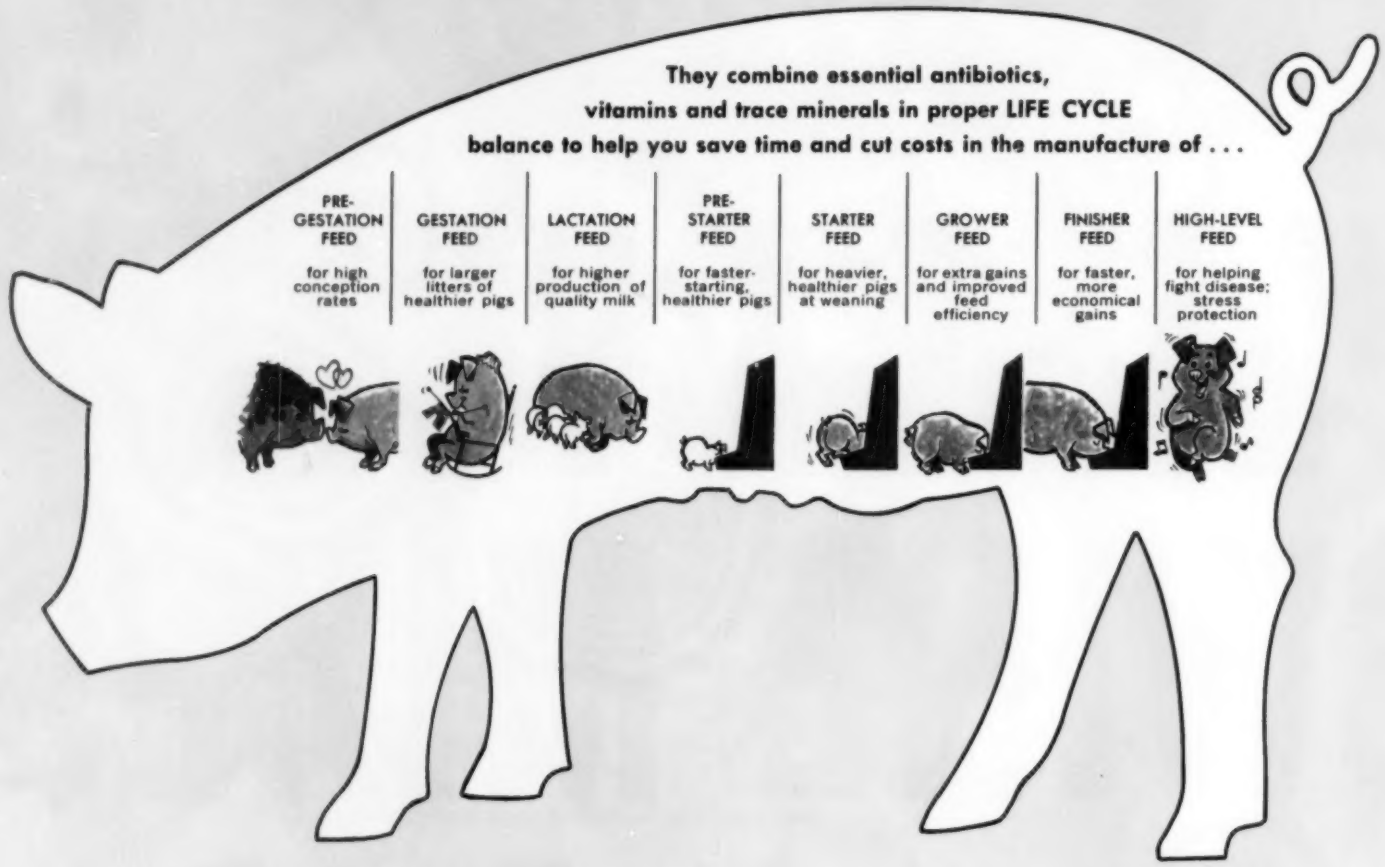
*a new service for manufacturers of swine feed*

**Pfizer**

# LIFE CYCLE SWINE MIXES

*. . . to help you cut costs of formulating LIFE CYCLE SWINE FEEDS*

# *What are*
# LIFE CYCLE MIXES?


They combine essential antibiotics,
vitamins and trace minerals in proper LIFE CYCLE
balance to help you save time and cut costs in the manufacture of . . .
PRE-GESTATION FEED
for high conception rates
GESTATION FEED
for larger litters of healthier pigs
LACTATION FEED
for higher production of quality milk
PRE-STARTER FEED
for faster-starting, healthier pigs
STARTER FEED
for heavier, healthier pigs at weaning
GROWER FEED
for extra gains and improved feed efficiency
FINISHER FEED
for faster, more economical gains
HIGH-LEVEL FEED
for helping fight disease; stress protection

*They are the first complete line of mixes formulated 100% for LIFE CYCLE Swine Feeds*

●

*They're specially formulated to meet the special needs of swine in every phase of their LIFE CYCLE–from breeding herd to market*

●

*And they're developed from extensive LIFE CYCLE Feeding research to incorporate many of the latest advances in swine nutrition*

# *Why Life Cycle Mixes?*

## THE SWINE INDUSTRY IS CHANGING

Each year the swine industry gets closer to the day when true Life Cycle Feeding practices will be the rule, rather than the exceptional example.

This represents progress that is good for your customers and you.

## FORMULA FEED SALES WILL INCREASE

The adoption of just one Life Cycle principle alone—the use of formula feeds from start to finish — could make a great difference in the total feed volume you sell to your present customers.

One look at what happened to the total volume of broiler feed sales in recent years will show what this change can mean to your swine feed sales.

## LIFE CYCLE FEEDING IS A PROVEN PRACTICE

Feed nutritionists have proved Life Cycle Formula Feeds are the ideal way to get maximum control of costs, feed efficiency and profit potentials.

They've shown it is so practical and profitable that general producer acceptance is inevitable. And feeders are becoming more and more aware of this fact.

## FEEDER ACCEPTANCE IS INCREASING

As a result, each year your job of selling specialized swine feeds is easier. And, each year, more and more "Life Cycle" feeding recommendations for multipurpose feeds are being replaced with true Life Cycle Formula Feeds.

## PFIZER MIXES HELP YOU CUT MANUFACTURING COSTS

Every time you add another feed to your line, your inventory, shipping, ordering, handling, mixing and formulating costs increase.

Pfizer's Life Cycle Mixes were developed to help you solve such problems . . . to cut costs by simplifying this job along proven Life Cycle lines.

By combining several ingredients into a Life Cycle Mix, Pfizer offers an ideal way for you to complete several steps in swine feed manufacture as easily as one.

## . . . CUTS INGREDIENT COSTS, TOO

Equally important, the mixes become an ideal way for you to combine your orders and save.

That's why Pfizer has developed Life Cycle Mixes—to fill a real need that is becoming increasingly important each year.

The individual Life Cycle Mixes are more completely defined on the following pages. And your Pfizer representative will be happy to discuss any specialized questions you may have. See him soon.

# Here are the Pfize

## No. 1 FOR USE IN FEEDS FOR PIGS 3 TO 40 LBS.

| Ingredients | Amount per 10 lb. of Mix | Amount per ton of feed for pigs 3-10 lbs.[1] | Amount per ton of feed for pigs 10-40 lbs.[2] |
|---|---|---|---|
| Vit. A. (mill. I.U.) | 5.0 | 7.5 | 5 |
| Vit. $D_2$ (mill. I.U.) | 2.0 | 3 | 2 |
| Vit. $B_{12}$ mg. | 20 | 30 | 20 |
| Riboflavin g. | 8 | 12 | 8 |
| Niacin g. | 40 | 60 | 40 |
| Pantothenic Acid g. | 15 | 22.5 | 15 |
| Choline g. | 180 | 270 | 180 |
| Terramycin g. | 50 | 75 | 50 |
| Copper* g. | 2 | 3 | 2 |
| Iron* g. | 20 | 30 | 20 |
| Manganese* g. | 40 | 60 | 40 |
| Zinc* g. | 50 | 75 | 50 |
| Iodine** mg. | 300 | 450 | 300 |
| Cobalt* mg. | 200 | 300 | 200 |
| Vigofac g. | 1362 | 2043 | 1362 |

Balance of diluent as corn gluten feed
*as carbonate-
**as calcium iodate
1. Use Mix at rate of 15 lbs. per ton of feed 2. Use Mix at rate of 10 lbs. per ton of feed

## No. 3 F

| Ingredients | |
|---|---|
| Vit. A. | (mill. I.U.) |
| Vit. $D_2$ | (mill. I.U.) |
| Vit. $B_{12}$ | mg. |
| Riboflavin | g. |
| Niacin | g. |
| Pantothenic Acid | g. |
| Choline | g. |
| Terramycin | g |
| Copper* | g |
| Iron* | g. |
| Manganese* | g. |
| Zinc* | g |
| Iodine** | mg |
| Cobalt* | mg. |

Balance of diluent as c
*as carbonate
**as calcium iodate
1. Use Mix at rate of 5
3. Use at rate of 10 lbs

## No. 2 FOR USE IN FEEDS FOR SWINE 40 LBS. TO MARKET

| Ingredients | Amount per 10 lb. of Mix | Amount per ton of feed for swine 40 to 100 or 125 lbs.[1] | Amount per ton of feed for swine 100-125 lbs. to market weight[2] |
|---|---|---|---|
| Vit. A. (mill. I.U.) | 1.5 | 1.5-2.25 | 1.5 |
| Vit. $D_2$ (mill. I.U.) | 0.75 | 0.75-1.125 | 0.75 |
| Vit. $B_{12}$ mg. | 8 | 8-12 | 8 |
| Riboflavin g. | 3 | 3-4.5 | 3 |
| Niacin g. | 20 | 20-30 | 20 |
| Pantothenic Acid g. | 7 | 7-10.5 | 7 |
| Choline g. | 50 | 50-75 | 50 |
| Terramycin g. | 8 | 8-12 | 8 |
| Copper* g. | 2 | 2-3 | 2 |
| Iron* g. | 20 | 20-30 | 20 |
| Manganese* g. | 40 | 40-60 | 40 |
| Zinc* g. | 50 | 50-75 | 50 |
| Iodine** mg. | 300 | 300-450 | 300 |
| Cobalt* mg. | 200 | 200-300 | 200 |
| Oleando-mycin g. | 2 | 2-3 | 2 |
| Vigofac g. | 1362 | 1362-2043 | 1362 |

Balance of diluent as corn gluten feed
*as carbonate
**as calcium iodate
1. Use Mix at rate of 10-15 lbs. per ton of feed 2. Use Mix at rate of 10 lbs. per ton of feed

## No. 4 F H

| Ingredients | |
|---|---|
| Vit. A | (mill. I.U.) |
| Vit. $D_2$ | (mill. I.U.) |
| Vit. $B_{12}$ | mg. |
| Riboflavin | g. |
| Niacin | g. |
| Pantothenic Acid | g. |
| Choline | g. |
| Terramycin | g. |
| Copper* | g. |
| Iron* | g. |
| Manganese* | g. |
| Zinc* | g. |
| Iodine** | mg. |
| Cobalt* | mg. |

Balance of diluent as co
*as carbonate
**as calcium iodate
1. Use Mix at the rate of

# r Life Cycle Mixes

## OR USE IN FEEDS FOR BREEDING HERDS

| | Amount per 10 lb. of Mix | Amount per ton of pre-gestation feed[1] | Amount per ton of gestation feed[2] | Amount per ton of lactation feed[3] | Amount per ton of boar ration[4] |
|---|---|---|---|---|---|
| | 5.0 | 2.5 | 3.75 | 5.0 | 2.5 |
| | 2.0 | 1.0 | 1.5 | 2.0 | 1.0 |
| | 12 | 6 | 9.0 | 12 | 6 |
| | 6 | 3 | 4.5 | 6 | 3 |
| | 30 | 15 | 22.5 | 30 | 15 |
| | 15 | 7.5 | 11.25 | 15 | 7.5 |
| | 200 | 100 | 150 | 200 | 100 |
| | 100 | 50 | 75 | 100 | 50 |
| | 2 | 1 | 1.5 | 2 | 1 |
| | 20 | 10 | 15 | 20 | 10 |
| | 40 | 20 | 30 | 40 | 20 |
| | 50 | 25 | 37.5 | 50 | 25 |
| | 300 | 150 | 225 | 300 | 50 |
| | 200 | 100 | 150 | 200 | 100 |

rn gluten feed

bs. per ton of feed 2. Use at rate of 7.5 lbs. per ton of feed
per ton of feed 4. Use at rate of 5 lbs. per ton of feed

## OR USE IN IIGH-LEVEL FEEDS

| Amount per 10 lb. of Mix | Amount per ton of finished feed[1] |
|---|---|
| 10 | 10 |
| 2.5 | 2.5 |
| 25 | 25 |
| 10 | 10 |
| 60 | 60 |
| 20 | 20 |
| 180 | 180 |
| 200 | 200 |
| 2 | 2 |
| 20 | 20 |
| 40 | 40 |
| 50 | 50 |
| 300 | 300 |
| 200 | 200 |

rn gluten feed

10 lbs. per ton of finished feed

In addition to the Life Cycle Mixes outlined above, Pfizer is able to supply combinations of antibiotics, vitamins and minerals to meet practically any requirement of the feed industry . . . in any quantity desired for convenience in feed manufacturing.

Custom formulations are mixed to customer order.

Every batch is thoroughly assayed to meet specifications as requested and to assure claimed potency at delivery and full fortification at the feed trough.

Prices are available upon request.

*The role of antibiotics in*

**Pfizer**

# LIFE CYCLE MIXES

**There are two reasons for use of any antibiotics in swine feeds:**

1. To fight diseases.
2. To cut costs by improving rate of gain and feed efficiency.

To accomplish the first job best, it makes good sense to use the antibiotic with the best, proven record of broad-coverage disease protection . . . and to use it at disease-fighting levels—during times of high disease risk.

To accomplish the second, calls for the antibiotic—*or combination of antibiotics*—that produces the best results at the least cost.

Pfizer Life Cycle Mixes do just that. They were specially formulated with these goals in mind.

Here's how

# LIFE CYCLE MIXES

can improve the performance of your feeds

## FASTER GAINS

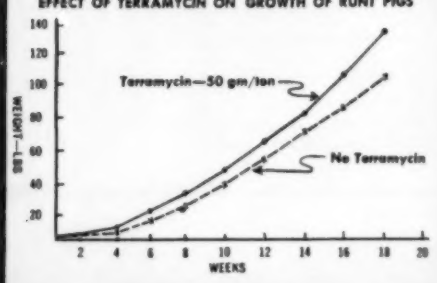
ORDINARY ANTIBIOTICS* OR DRUGS

7.7% GREATER GAINS

TERRAMYCIN PLUS OLEANDO-MYCIN

## FEWER RUNTS

EFFECT OF TERRAMYCIN ON GROWTH OF RUNT PIGS




## BETTER FEED EFFICIENCY

ORDINARY ANTIBIOTICS* OR DRUGS

4.6% IMPROVED FEED EFFICIENCY

TERRAMYCIN PLUS OLEANDO-MYCIN

## BETTER HEALTH

When used at levels recommended for each specific use, Terramycin in feeds can:

**PREVENT OR TREAT**

Scours or bacterial diarrhea
Enteritis
Secondary diseases
Atrophic Rhinitis (aid in the maintenance of weight gains and feed consumption in presence of this disease)
Leptospirosis (prevent abortions and birth of weak or dead pigs due to Leptospirosis)

## LESS FEEDING TIME TO MARKET WEIGHT

108 DAYS WEANING TO MARKET

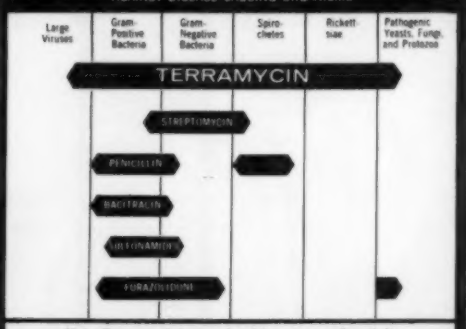
ORDINARY ANTIBIOTICS OR DRUGS*

102 DAYS WEANING TO MARKET

TERRAMYCIN PLUS OLEANDO-MYCIN

6 DAYS SAVED

EFFECTIVENESS OF VARIOUS DRUGS AGAINST DISEASE-CAUSING ORGANISMS




Note Terramycin's much wider range of activity over other well-known drugs

*Typical results from tests comparing [illegible] drugs, alone or in combination.

*During periods of high disease risk:*

# Terramycin®

## ...the antibiotic of choice for pre-starter, starter, breeder and high-level feeds

Over six years of pharmaceutical research, field trials, commercial herd experiences, college testing and feed industry experiments have helped prove:

Year after year . . . no other antibiotic . . . no other drug of any kind . . . is more effective in preventing—and treating—more swine diseases than Terramycin.

*You know it's good. Six years of proof tell you so.*

That's why Terramycin is used in Pfizer Life Cycle Mixes to help fight diseases during the *high risk periods.*

In addition to disease protection, you get bonus benefits with Terramycin—benefits such as: Greater gains • Improved feed efficiency • Fewer runts • Lower feed costs • Less feeding time to market.

●

*During periods of low disease risk:*

# Terramycin-Oleando-mycin

## ...the antibiotics of choice for growing and finishing rations

Over four years of human and animal research have gone into the development of the new antibiotic, Oleando-mycin.

When first tested with swine rations, preliminary results showed dramatic improvements in growth and feed efficiency.

Further studies developed even greater improvements with the combination of Terramycin and Oleando-mycin.

A recent summary report on Oleando-mycin notes this general finding: "The average (growth) values for Oleando-mycin and Terramycin combinations are definitely superior to other antibiotics . . . and to either antibiotic used alone."

Pfizer Life Cycle Mixes for growing and finishing feeds include the combination of Terramycin and Oleando-mycin at low levels, ideally suited for maximum feed performance during these periods of *low disease risk.*

*TERRAMYCIN—BRAND OF OXYTETRACYCLINE

Pfizer

# LIFE CYCLE MIXES

*. . . formulated on the basis of research fact as shown in extensive tests.*

The results of thousands of college, industry and Pfizer trials are represented in the formulations of this new line of Life Cycle Mixes.

Even the newest facet of these formulations — the use of Terramycin and Oleando-mycin in growing, finishing rations—has been extensively researched in trials similar to those pictured here—trials at Pfizer's Agricultural Research and Development Center... and in commercial hog operations.

Your Pfizer representative has complete details on these new ways to cut formulation costs . . . while improving feed performance. See him soon.

Pfizer

Chas. Pfizer & Co., Inc.
*Science for the world's well-being*

630 Flushing Ave., Brooklyn 6
7600 Ambassador Row, Dallas 7
230 Brighton Rd., Clifton, N. J.
6460 W. Cortland St., Chicago 35
1500-16th St., San Francisco 3
5251 Peachtree Blvd., Chamblee, Ga.
In Canada: 5330 Royalmount Rd., Montreal 9, P.Q.

# CONSOLIDATED

MORE FEED SALES ARE IN TH' BAG—

when you add

# MERRY-MIXER

## DEHYDRATED ALFALFA

to your feedstuffs!

Now—at no additional cost—you can upgrade your feedstuffs with the finest alfalfa available and send your sales curve climbing!

Merry Mixer alfalfa is produced in the very heart of Alfalfa-Land and is carefully processed from cutting through inert gas storage to retain the maximum amounts of Vitamin A and trace minerals. It's actually worth more than its weight in gold in value to your feed—and to the feeder as well.

Specify dust-free, easy-mixing Merry Mixer dehy Greenules for your next order and check our service efficiency. We deliver the best alfalfa products in the best possible time *all the time!*

**3 PLANT LOCATIONS;**

Fremont, Nebr.
Nebraska City, Nebr.
Phone: Park 1-7000
FREMONT

Guntersville, Alabama
Phone: Justice 2-3156

# BLENDERS INC.

# JOE BROOKS

BY AL P. NELSON

## A Customer Complains

A heavy set, tallish fellow with a truculent look on his broad face came heavily into the Joe Brooks sales room. "Is Choe aroundt?" he asked Butterball Barlow, who was rearranging shelf stock.

Butterball Barlow recognized Herman Spiegelhoff, a dairy, hog and poultry feed customer, and he could also see that something was irritating Herman.

"Yes, he's in his office," he said nervously, pointing to Joe's quarters.

"Goot!" grumbled Spiegelhoff, striding toward the office. "I vant to see him."

"Whew," whispered Butterball to Pop Henley a moment later. "Speigelhoff is mad about something. He just went in to see Joe."

"Mad!" grunted Henley. "The older I get the more I can see to getting mad. It's good to get mad now and then. Stirs up your blood and gets the poisons worked out."

In Joe's office, Spiegelhoff stood and did not sit. "Hello, Herman, come in and sit here," Joe greeted. He knew immediately that something was wrong with the big German farmer.

"Okay," said Spiegelhoff slowly. He came and sat in a chair next to Joe's big desk.

"Choe," he said slowly, "I have been a customer here for many years, yah?"

"That's right, Herman. And we value your business. You are one of the best farmers in the county in my opinion."

"Danks," replied the farmer soberly. He took a slip of paper from his pocket and thrust it toward Joe.

"Choe," he said severely, "my name is Spiegelhoff, yah. Not Hoff like it says there."

Joe looked at the duplicate sales slip. Sure enough the name "Hoff" was scrawled in.

"It's a mistake," Joe said. "Who wrote this?"

"That feller that's crazy aboudt redheads—that Milt Peters," Herman said. "Ach, I didn't notice it until I got home. Andt I don't like that."

"Of course not," Joe said soberly. "Mistakes can happen, but Milt knows who you are. It could be that he was busy and didn't write your name out in full. Perhaps he thought you wouldn't mind—but I'll speak to him."

"Und another thing," went on the German stolidly. "What is that hen scratching I am supposed to buy?"

### Poor Writing Job

Joe studied the sales slip. "Well, it says grd and mix, but it's hard to read. And the next seems to be eight salt blocks. But I really can't read the third item. Do you know what you bought?"

"Sure, I know," put in Herman. "I alzo bought some hog wormer. Ach, but when I buy something, I like to have it so I can readt it, yah?

"Of course you do. Herman, you have done me a favor by coming in with this complaint. This shows me that I have to hold a special sales training meeting and show my men how to make out a sales slip. I've told them this a long time ago and I thought they remembered. But all of us slip once in a while. We need to be reminded."

Herman looked self important. "You know me, Choe. I always tell you what I think. My wife, she likes to buy some seedts and garden fertilizer from Meyer & Sons over at Cedarville. So she shows me one of their sales slips. 'Look,' she says. 'They make oudt slips so you can readt them. They do not try to schlip something over on us.' Well, then I get into an argument with her. I say, 'Ach, Choe Brooks is not a schlipper. I know him. I haf bought feedt from him for many years and goot feedt, too.' Then she says, 'Well, why don't he go back to school and learn how to write, yah?' Choe, by golly, I wonder if other married men haf trouble like that with their wifes."

Joe laughed a little sheepishly. "I guess the couple doesn't live, Herman, that hasn't laid it on the line for the other to see once in a while. For better or for worse, the minister says."

"Yah, I guess some fellers they get the worse," Herman grumbled. "I can't see why women talk so much. Ach, they neffer say anything when they get through anyways."

"I certainly am sorry about this poorly made out sales slip, Herman," said Joe apologetically. "It certainly stresses the importance of an employee knowing what he is doing when he's got that pencil and is recording a transaction. I'll really give the boys the works on this. We'll go over all the points of filling out sales slips until they get so tired of it they'll fill them out perfectly automatically."

"That is the way to do it, Choe," said Herman. "Gif them hell. You feed fellers is always telling us—and the resale men, too—that if we don't get efficient andt schtuff like that, we are goin' oudt of business. Well, feedt


NEW from Daffin

CUSTOM PACKAGED PELLETING UNIT!

Once again Daffin scoops the industry—now with the revolutionary new line of "packaged" units for custom pelleting.

Here it is . . . the industry's only complete pelleting plant engineered into one compact group of components!

Everything you need, economically packaged, for top quality, low-cost pellets:

MASH SURGE BIN
PELLET MACHINE
ELEVATORS
SCALPER
COOLER

—all within 50 sq. ft. of space on one floor—and only 13′ 6″ high!

Unit ties in beautifully with mash feed and roughage processing equipment without additional manpower!

This is another Daffin work-saving, money-making, business builder for you!

Write for full details or for engineering consultation.

Better Pellets in less space, at lower cost, with higher profits.

Special Daffin stationary dies produce harder, firmer pellets. Unit excels in handling high-roughage feeds. Unique system of screening ahead of cooling means less air restriction and cleaner production. No collector necessary. Unit operates with or without steam.

Daffin MANUFACTURING COMPANY

Builders of the World-Famous Daffin Feedmobiles, Packaged Feed Plants, Pneumatic Conveying Systems, Pelleting Machines, Batch Mixers

SERVICE PARTS DEPOTS: Alabama-Birmingham-Montgomery • Arkansas-North Little Rock • Georgia-Perry • Illinois-Springfield • Indiana-Evansville-Indianapolis • Iowa-Cedar Rapids • Kansas-North Kansas City • Kentucky-Shelbyville • Michigan-Detroit-Grand Rapids • Minnesota-Rochester • Nebraska-Omaha • New York-Syracuse-Tonawanda • North Carolina-Laurinburg • Ohio-Cincinnati-Cleveland-Dayton-Toledo-Youngstown • Pennsylvania-Lancaster-Wexford • South Carolina-Laurinburg S. Dakota-Sioux Falls • Tennessee-Knoxville-Memphis • Texas-Dallas-Houston-San Antonio • Virginia-Lynchburg • Wisconsin-Oconomowoc • Canada-Toronto

DAFFIN MANUFACTURING COMPANY, 3293 NORTH PRINCE STREET, LANCASTER, PENNSYLVANIA

dealers better watch oudt, too. They haf to get efficient or farmers will look for another place to buy."

"Exactly," Joe said.

"Okay, I go now," said Herman, apparently pleased he had gotten his idea considered. "Tell those fellers at the meeting, Choe, that my name is Spiegelhoff, a goot German name."

"Don't worry, I'll make your meaning very clear. I want to keep you as a customer," Joe promised.

## *California PUC Sets New Truck Rates*

SACRAMENTO — The California Public Utilities Commission in decision No. 59084 has established a new schedule of rates and rules affecting truck transportation of grain, grain products, rice and related products, effective Oct. 30.

The decision calls for new mileage-weight rates and continues the statewide 10% surcharge and the 16% surcharge applicable to the San Francisco Bay area counties.

The California Hay, Grain & Feed Dealers Assn. has been informed by a member of the PUC staff that there is an error in the decision and that a subsequent order will delete both surcharges.

The decision also provides one stop in transit free for inspection after which a $2 charge will be made for each subsequent stop. There is no change in the present demurrage item which allows a four-hour free time period, then a 2.5¢ per cwt. charge for excess time. Special rates and mileages for short distances in the Imperial Valley are cancelled by the new decision.

Examples of the new bulk rates as compared with present rates follow:

| | | —New bulk rates— | |
|---|---|---|---|
| Miles | Present rate cents | Minimum 30,000 lb. cents | Minimum 40,000 lb. cents |
| 0- 3 | 4.5 | 7 | 5.5 |
| 3- 5 | 5.5 | 7.5 | 6 |
| 10- 15 | 6 | 8.5 | 7 |
| 25- 30 | 6.5 | 11.5 | 9.5 |
| 45- 50 | 8.5 | 15.5 | 13.5 |
| 90-100 | 17 | 22 | 19 |
| 140-150 | 25 | 29 | 26 |
| 190-200 | 30 | 37 | 34 |
| 280-300 | 44 | 49 | 45 |
| 475-500 | 67 | 78 | 61 |

## Financing Provided for Poultry Sold to Peru

WASHINGTON—The U.S. Department of Agriculture has announced a supplemental agreement with Peru providing for financing sale of $50,000 worth of poultry to that country under Title I of Public Law 480. The agreement supplements one announced April 10, 1958. Purchase authorizations will be announced later.

The agreement provides that 25% of the Peruvian soles obtained as sales proceeds will be set aside for loans to U.S. and Peruvian private enterprises by the Export-Import Bank of Washington, Washington 25, D.C. Information regarding these loans is available from that agency.

## Southern States Starts Feed Promotion Plan

RICHMOND, VA.—A feed volume building program featuring merchandise awards was started Oct. 1 by Southern States Cooperative and will continue through June 30.

Southern States calls the program "Project F.E.E.D.," the initials standing for "fuel for extra effort and drive." Goal of the campaign is an increase of 50,000 tons of feed volume. Service Guide, a publication of the co-op, recently reported that the project has been developed by SSC "to build volume in those feeds not affected by broiler contracting reductions so that SSC's mills can continue to operate efficiently."

Four facets of Project F.E.E.D. are: (1) Farm visits program, (2) extension of bonus feed program, (3) incentive for agencies and (4) hybrid corn order promotion.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**INTEGRATION—PART I**

# East, Midwest Farmers Attracted By Advantages of Integration Plans

**By Al P. Nelson**
**Feedstuffs Special Writer**

A year ago I took an extensive trip through the Midwest and East visiting feed dealers, custom mill operators and feed manufacturers in Iowa, Minnesota, Wisconsin, Illinois, Indiana, Ohio, Kentucky, West Virginia, Virginia, New Jersey, Pennsylvania and New York.

My purpose was to learn from a "grass roots" level whether partial or complete livestock and poultry integration programs were operating in these states, and what the general reaction was to such plans.

At that time I found that while there were some integration plans operating in these states, they were relatively few and far between.

It should also be remembered that in the summer of 1958, broiler, egg and hog prices were firmer than they were in a similar period of 1959, and that prognostications of the market future were considerably more optimistic than they are today.

However, when I made a trip to most of the above mentioned states in mid-summer of 1959, I discovered many changes in the spread of integration programs in a year's time.

I found that in many areas there was a definite increase in integration programs, including a variety of contract feeding plans. I also discovered that opposition of feed men and farmers to the idea of integrated programs is much less. Many of them now see that integration is a trend which is going to grow, because it appears to be a partial answer to some of the production and marketing problems, especially in the matter of financing.

The average farmer, confronted with the necessity of increasing his investment in acreage, machinery, livestock and poultry in order to make a sizable profit in today's market, is at last willing to let outsiders namely feed dealers, manufacturers, hatcheries, produce companies and others assume some or all of the financial risk in production programs.

Many farmers are willing to stake their labor and the use of their facilities in an integration program. The fact that someone else is willing to assume the marketing of livestock and poultry, often at a guaranteed price, seems to appeal to many farmers, who have been confused by marketing problems in many areas for a number of years.

***EDITOR'S NOTE:** This article is the first of a series of three dealing with trends in integration and contract farming. It is based on information gathered by the author during a trip through several midwestern and eastern states, calling mostly on smaller feed manufacturers and feed dealers. As pointed out in the article, integration plans are on the sharp increase in the areas covered, mainly because farmers feel they can benefit from "outside" help with production, marketing and financing problems. One of the trends discussed is that of devising integrated plans to help farmers retain much of their economic independence.*

The recent rush of farm cooperatives to establish integrated programs in livestock and poultry operations has also convinced the average farmer that the "lone wolf" attitude, prevalent in American agriculture for generations, is just not economically practical any longer.

The farmer may not like the idea of giving up his traditional independence, but on the whole he sees the economic necessity of so doing. Furthermore, his feed dealer and most of his suppliers generally are swinging over to the idea of integration in some form or another as a "here-to-stay" trend, and such attitudes, too, influence the farmer.

### Early Controls Too "Tight"

Many dealers and mill owners report that when integration first made its appearance in their area, there was the tendency to "tie up" the farmer quite closely to a formal contract, and that such contracts tended to deprive the farmer of independent action. However, today, I am told by many dealers and mill owners that the trend is to try to give the farmer the benefits of integration, and yet arrange a program so that he can retain a great deal of his independence.

Egg marketing plans containing clauses which offer growers incentive plans, or in some instances, point out the independent "buy out" features which the grower can exercise if he wishes, are being used at the Kasson (Minn.) Elevator Co.; All-State Hatchery at Willmar, Minn.; in the broiler, turkey and hog raising plans of D. E. Horn & Co., Inc., York, Pa., Wampler Feed & Seed Co. at Harrisonburg, Va., Graham Brothers, Inc., Washington, Ind., Farm Service Co., Orleans, Ind., and Amstutz Hatcheries at Celina, Ohio.

In other words, there is a definite trend in many areas to help the farmer retain much of his economic independence, and yet get him committed to a specified production program as a member of a unit, each section of which wishes to make a profit.

The stressing of the farmer's role as a partner in an integration program, as independent as the other members of the program, has strong appeal, mill owners told me, and undoubtedly will be a part of many future integration contracts.

And it should not be forgotten that the lower broiler, hog and egg prices in 1959 as compared with 1958, is another factor which is convincing the average farmer that it might be wise for him to tie in as independently as he can with an integration program and thus share with other vitally interested investors, some of the production and marketing problems inherent in the industry.

### Listed Benefits

Following are some of the benefits of partial or complete participation in an integration program, as pointed out to me by those engaged in such programs.

1. **Financing.** Farmers do not have

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NEW OFFICER—W. M. Anderson (left), new vice president and director of sales, Biochemical Corporation of America, is greeted following his recent election by George A. Jeffreys (center), president of the corporation, and H. Thomas Martin, executive vice president and general manager. (Feedstuffs, Oct. 17.)

the marketing knowledge to carefully determine each year how many broilers or layers they should raise, or how many hogs to breed or buy for feeding. They often decide such matters in terms of present market prices, and are often unable to get livestock and poultry ready for market when prices go up.

Under an integrated plan, someone else who knows the market sets the quota for each farmer and guarantees to take the output, and often guarantees the price. This solves the marketing problem for most farmers; they then can concentrate on production.

The feed, the chicks, the hogs, the litter and the medicants are supplied to the farmer, and proper financing secured. If he needs housing, the supplier helps him arrange financing on a long term basis with Production Credit Assn., banks, building and loan associations or other agencies. Suppliers pave the way for financing deals to accredited farmers.

2. Planning aid. The integrator works out with the farmer the entire production layout for the integrated program as a rule. Economic factors play a major part. Quantity buying cuts equipment and other costs. No make shift housing is used. College experiment and other housing recommendations are followed closely. A vast wealth of housing statistics are studied by the integrator to get a program which will yield the largest return to the grower and to himself. Planning of this type is rarely done by the busy farmer, who centers most of his attention on production.

**Upgrading Stock**

3. Purchase of starting stock. Whether it's pigs, broilers or layers, the integrator usually insists on quality stock of his own selection. Thus the farmer is helped to upgrade the stock which he raises. If he ever leaves the integrated program and becomes a "lone wolf" operator again, he will not be likely to go back to raising inferior stock.

4. Follow through on production program. Integrators set up a carefully worked out feeding and care program for contract growers. Such a program includes weekly or twice-a-month inspection of hogs and poultry, covering specific points such as sanitation of pens and stock, weights, feeding, etc. Triplicate copies are made of each report. One goes to the integrator, one to the farmer and one to the fieldman making the report. The integrator and the farmer can glance at this report and tell instantly whether this particular operation is up to standard, or if it needs extra help.

The farmer thus has a thorough, complete check list which he can use in making his own assessment of the kind of job he is doing on the program. He can see where he is falling short of requirements. He would rarely make such a frank assessment on his own independent program. And yet if he ever goes entirely independent again, such training will stick with him.

He will at least know specifically what must be done to raise hogs or poultry along economically approved lines. This type of education should be worth a great deal to him and cannot help being reflected in better operations.

**Itemizing Costs**

5. Cost education. Integrators give growers detailed reports on the cost of flocks and hogs which they raise. These are breakdown costs on feed, labor, handling, chick and hog costs, etc. Gross and net profits on specific operations are figured to percentage points. Fieldmen discuss such reports with growers. The reports show how "strong" financially such a report is against other growers.

Incentive plans, including prices on feed conversion gains, are shown on reports, and indicate how much the grower is getting because of his initiative, as compared with what other growers have accomplished.

Here again, the grower can analyze a complete integration project report, as it affects him. As an independent he would rarely take the trouble to figure his costs so carefully. If such an operator ever strikes out on his own in the future, he will know what kind of report to draw up to show himself how he stacks up at the termination of every flock project, etc.

6. Feed dealer records. The feed dealer who integrates, either on his own or with his feed manufacturer and others, makes available to himself a wealth of specific production records. This information, when studied, should aid him immensely in helping independent farmers with their feeding problems, and generally increase his efficiency as a dealer.

Some northern as well as southern dealers are now getting into their own integration plans, in that they raise broilers, layers, turkeys or hogs themselves and market them. Either they have farms under their own direction, or they hire farmers to operate such programs. Glenn Milling Co., Mayville and Wayne, Wis., raises 265,000 broilers annually at present with its own personnel, and does not have any farmers on similar contract projects. The owner of Glenn Milling Co. keeps very detailed records and knows production costs to a fraction of a cent. Such knowledge helps him to sell broiler feeds to independent farmers.

**Basis for Financing**

7. Integrated projects are usually set up on a long term basis. In most instances they are financed so as to weather occasional market fluctuations. Investors in such programs are committed to this manner of production and marketing, and intend to

stay in it and make a profit for themselves and their growers. This gives many growers that sense of security which many of them want.

Many feed men believe that the alert independent farmer can still continue to make a profit on hogs and poultry outside the integrated fold. He can follow the integrated-type program as to breeding stock, feeding and management, and he can market independently. Or, if he is willing to sacrifice a little independence, he can find programs which help him raise poultry or hogs on an approved program, and then he can do his own marketing if he wishes. There are still many produce houses, for example, that will take quality eggs and other produce from any farmer, integrated or not. Produce people indicate that such will be the case for a long time.

"We can get all the barnyard eggs we want," wails one produce buyer, "but we don't want any of them. We want premium eggs, and there is a shortage of them, believe me."

Thus, whether a farmer is a member of an integration plan or not, his challenge is to furnish a quality product for the market, not a sub-quality one. And integration, whether the independent farmer joins the movement or not, has focused the attention of the industry upon quality, as set down by the consumer.

## *USDA Announces AMS Staff Changes*

WASHINGTON — Several changes in personnel assignments within the Agricultural Marketing Service were announced recently by the U.S. Department of Agriculture.

Nathan M. Koffsky, former chief of the farm income branch in the agricultural economics division, has been named deputy administrator for economics and statistics. Mr. Koffsky, who has been in charge of demand analyses and farm income work since the organization of AMS, has been with the USDA since 1934, except for his military service during World War II.

In his new capacity Mr. Koffsky will have general responsibility for the work of the agricultural economics division, the agricultural estimates division, the statistical standards division and the outlook and situation board.

Four new research divisions have been established, replacing the four branches of the former marketing research division. They will be under the general supervision of Dr. Omer W. Herrmann, deputy administrator for marketing research. Dr. Herrmann also will be responsible for AMS foreign marketing research contracts and grants under Sections 104a and 104k of Public Law 480. He will be aided by Dr. H. C. Trelogan as assistant administrator for marketing research.

Until now, Dr. Herrmann has had responsibility for the economics and statistics as well as the marketing research, and Dr. Trelogan was director of the former marketing research division.

Other personnel changes include: Kenneth E. Ogren, chief of the former Marketing Organization and Costs Branch, becomes director of the marketing economics research division; Robert M. Walsh, chief of the former market development branch, becomes director of the market development research division; Dr. Wilbur T. Pentzer, chief of the former Biological Sciences Branch, becomes director of the market quality research division, and W. C. Crow, chief of the former transportation and facilities branch, becomes director of the transportation and facilities research division.

Roy W. Lennartson remains deputy administrator for marketing services.

Read CAPITAL COMMENT In FEEDSTUFFS


## Hog Growers Meeting

VALDOSTA, GA.—Feed dealers in Lowndes County, Georgia, in cooperation with the county agent and the University of Georgia Extension Service, recently sponsored a meeting for swine producers in the county. About 20% of the county's 944 swine growers attended.

The program consisted of talks and demonstrations about meat-type carcasses, feeding programs and use of small grains in rations.

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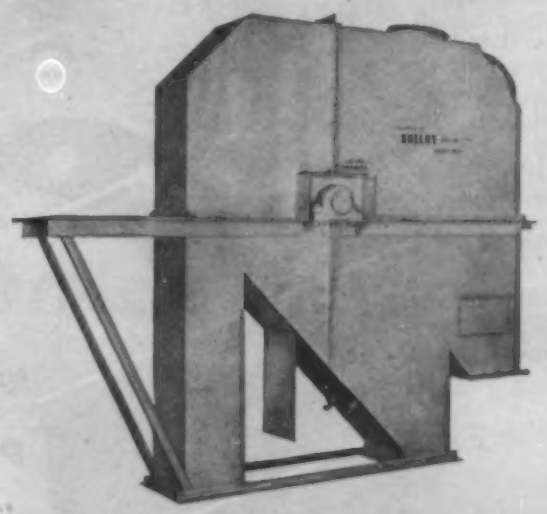

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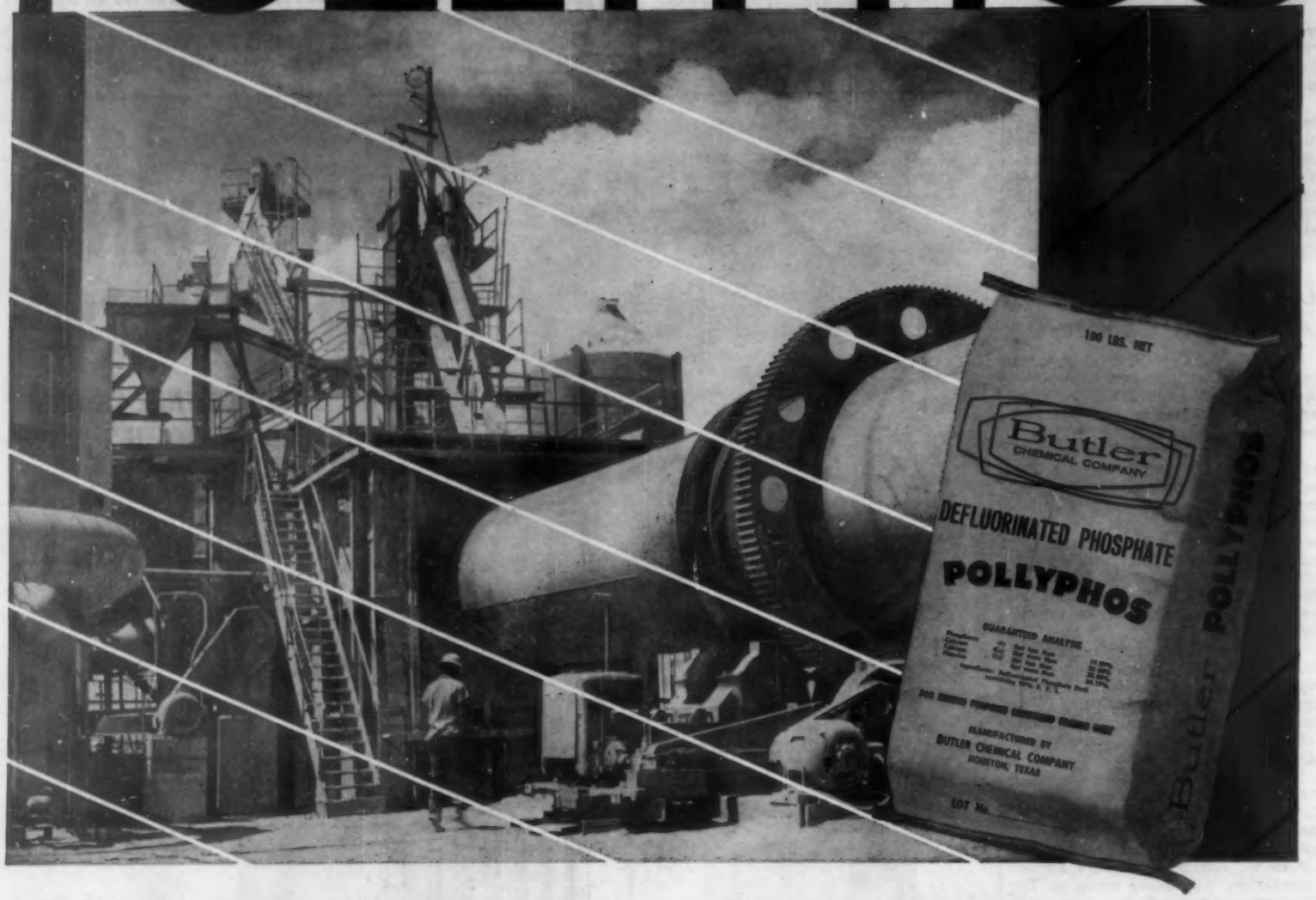


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SELLIN' SAM By Jim Zilverberg

"Looks like one of Sam's kids!"

# Farm-Held Feed Grain Down

WASHINGTON — Farm stocks of feed grains on Oct. 1 were 18% below a year earlier, according to the U.S. Department of Agriculture's October Crop Production report.

Oats and barley stocks were each sharply below last year, and 4% less old corn was farm stored than a year ago. Old crop sorghum stocks stored on farms Oct. 1 were nearly a half larger than the record a year ago, but amounted to only about 3% of the bumper crop produced in 1958.

Food grain stocks on farms were nearly a fourth below October, 1958, with both wheat and rye showing similar reductions.

Stocks of old flaxseed on farms were less than half as large as both last year and the average holdings. Farm stocks of old soybeans are far above any previous year, with nearly three fourths of the stocks under the government farm reseal program in effect for the first time this year. Excluding the reseal farm stocks, holdings were only a little above the usual remnant on farms Oct. 1.

**Grain Stocks on Farms, Oct. 1**

| Crop | 1958 %* | 1958 1,000 bushels | 1959 %* | 1959 1,000 bushels |
|---|---|---|---|---|
| Corn for grain† | 11.2 | 344,187 | 9.6 | 329,632 |
| Wheat | 44.0 | 443,900 | 40.0 | 447,305 |
| Oats | 84.6 | 1,202,549 | 83.6 | 898,819 |
| Barley | 65.2 | 306,800 | 61.6 | 251,656 |
| Rye | 59.6 | 19,036 | 57.7 | 12,106 |
| Flaxseed | 50.0 | 19,752 | 43.4 | 9,467 |
| Sorgh. grain† | 2.4 | 13,412 | 3.1 | 19,336 |
| Soybeans† | .5 | 2,191 | 3.0 | 16,960 |

*Per cent of previous year's crop.
†Old crop.

## GMI Feeds Promotion

SAN FRANCISCO — Leland V. Bloxham has been named to the newly-created post of field turkey supervisor for the General Mills northern and central California feed sales districts. He will direct turkey feed sales and service activities, and will travel throughout these areas of the state. He will continue to maintain residence headquarters in Napa, Cal.

Mr. Bloxham has more than nine years of field sales and feed store management experience with General Mills in Santa Rosa and San Bernardino, Cal., and Sandy, Utah.

## Artificially Dried Corn Is Good Cattle Feed

LINCOLN, NEB. — Tests at the University of Nebraska Agricultural Experiment Station indicate that corn dried with artificial heat not exceeding 190° makes good cattle feed.

Digestion trials showed no significant differences between lots of corn dried naturally compared with that dried by artificial heat at temperatures of 130, 160 or 190°, according to Morris Hemstrom, extension animal husbandry staff member.

The studies indicated that there was no nutrient loss in heat dried corn nor loss in digestibility of rations containing heat dried corn, Mr. Hemstrom said.

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Please send me full information on your Elba-Winchdozer system for bulk car unloading. I am particularly interested in the: DALLI ☐ BULLY ☐ MOBY ☐

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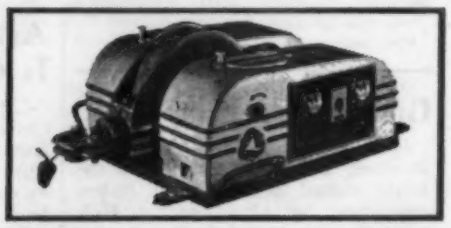
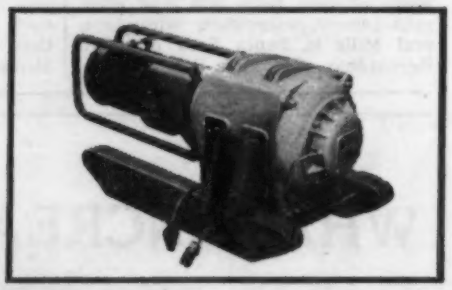
**DALLI** — Popular standard model. Output — 30 tons of soft feed per hour. Generates a pull up to 1400 pounds. Powered by a 2.5 HP electric motor (220-440 volts) or 5 HP gasoline engine. It weighs 480 lbs.



**BULLY** — Extra power for heavier jobs and increased efficiency. Output — 40 tons of soft feed per hour. Generates a pull of 2400 pounds. Powered by a 3.5 HP electric motor (220-440 volts) or 8 HP gasoline engine. It weighs 870 lbs.



**MOBY** — A duplex unit, basically the same as the BULLY model. Output — 80 tons of soft feed per hour. Operates two scoops, each independently controlled by push-button switch. It weighs 946 lbs.

**PRODUCTION SCHOOL DIRECTORS—Members of the board of directors of Feed Production School, Inc., are shown as they met in Kansas City in connection with the 1959 school and a meeting of the board of trustees. Seated, left to right, are Kenneth Grissinger, secretary; Larry Alley, Pay Way Feed Mills, vice president, and Lloyd Larson, president. Standing are Maurice Johnson, Professional Feeds Division, Spencer Kellogg & Sons, Inc.; Ray Ammon, the Quaker Oats Co.; Oak Smith, Wenger Mixer Mfg. Co., and Edward Williams, Butler Mfg. Co.**

## Production School Trustees Meet

KANSAS CITY—Larry Alley, Pay Way Feed Mills, Kansas City, was elected chairman, and Ray Ammon, the Quaker Oats Co., St. Joseph, Mo., was elected vice chairman of the board of trustees of Feed Production School, Inc., at a trustees' meeting held here in connection with the 1959 school.

Mr. Alley, who previously served as vice chairman, succeeds Fred Darragh, Darragh Co., Little Rock, Ark.

Elected as new trustees were Max Cooley, Hoffman-Taff, Inc., Springfield, Mo., and Dr. E. L. Stephenson, University of Arkansas.

The nominations were presented by Maurice Johnson, Professional Feeds Division, Spencer Kellogg & Sons, Inc., Kansas City, chairman of the nominating committee.

The board of trustees includes some 30 representatives of feed and machinery firms and associations covering all parts of the country.

During the meeting, Mr. Johnson explained the organization of Feed Production School, Inc., a non-profit corporation which now sponsors the school, and outlined the aim of serving the entire feed industry.

A. J. Bohl of Wolf Management Engineering Co., Chicago, which conducted a pelleting cost study for the school, outlined the need for the school and for management training in the industry. He noted that the feed manufacturing industry generally operates at a productivity in relation to standard which is lower than in many other industries.

J. D. Johnson, General Mills, Inc., Minneapolis, a former school committee chairman, described the need for the school in helping feed men to keep pace with fast-moving changes in production and distribution.

Mr. Cooley, who will serve as chairman of the school's 1960 planning committee, presented some of the preliminary plans for the next school. Lloyd Larson, president of Feed Production School, Inc., pointed out the growth of the school and cited the need for continuing improvements so that the school can serve industry well and attract men from throughout the country who can benefit from the information presented.

It was announced that a seminar will be held Oct. 29-30. This will bring in machinery men and others to discuss possible material to be presented at the next school.

## FDA Makes Changes In Food Additive Staff

WASHINGTON — Changes in personnel handling the administration of the 1958 food additive amendment to the Federal Food, Drug and Cosmetic Act, were announced recently by George P. Larrick, commissioner of the Food & Drug Administration.

Arthur A. Checchi, who has headed the FDA food additive staff since the new law was enacted, has resigned to enter the economic consulting field, Mr. Larrick said.

Einar T. Wulfsberg, formerly with FDA's bureau of program planning and appraisal, is replacing Mr. Checchi. Mr. Wulfsberg is a native of Minnesota and a former FDA inspector and chemist in the Denver district.

Alan T. Spiher, Jr., formerly in the food standards branch of the FDA bureau of biological and physical sciences, has been reassigned to assist Mr. Wulfsberg.

Also reassigned to assist in handling food additives matters is Frederick A. Cassidy, formerly an FDA inspector in the Philadelphia and Boston districts, and resident inspector at Scranton, Pa.

### W. R. BRANCH DIES

OMAHA — William R. (Bill) Branch, 65, formerly in charge of the U.S. Department of Agriculture market news branch here, died at his home in Monticello, Ill., recently. Mr. Branch retired from government service in 1957. He came to Omaha in 1943 from Kansas City.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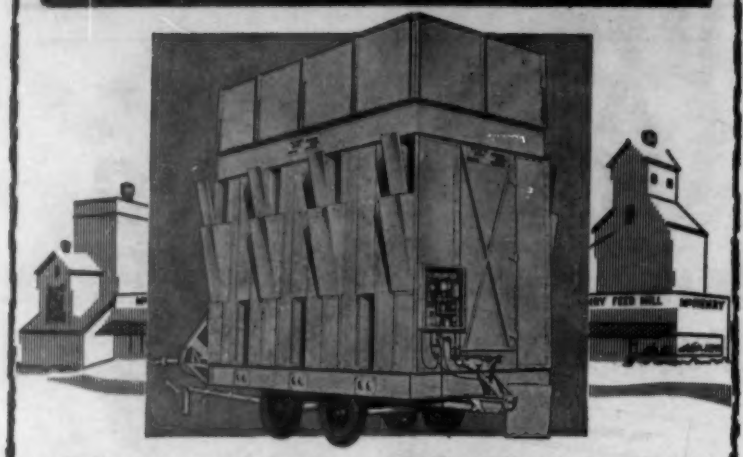

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**25 YEARS WITH MERCK**—W. A. (Bill) Rothermel (right), Chicago, sales representative for Merck & Co., Inc., receives wrist watch from Dr. W. H. McLean, Merck president, in honor of Mr. Rothermel's 25 years with the company. Born on an Iowa farm, Mr. Rothermel received a master of science degree in agriculture from the University of Wisconsin in 1932 and served on the university staff for two years before joining Merck. He has participated in the development or use of iodine, manganese, B vitamins and antibiotics in feeds.

## California Department Lists New Rules for Handling Screenings

SACRAMENTO, CAL. — Following transfer of administration and enforcement of seed screenings from the bureau of rodent and weed control to the bureau of plant quarantine, California now has a new set of regulations covering handling and processing of screenings.

W. C. Jacobsen, director, California Department of Agriculture, recently released the following order repealing and adopting regulations of the department pertaining to seed screenings and cleanings:

After proceedings duly held in accordance with provisions of the Administrative Procedure Act (Government Code, Title 2, Division 3, Part 1, Chapter 4) and pursuant to the authority vested by Sections 16 and 154.4 of the Agricultural Code of California, W. C. Jacobsen, director of agriculture, hereby repeals Sections 3800-3805, inclusive, of Article I (Seed Screenings and Cleanings), Group 2, Subchapter 5, Chapter 4, Title 3 (Agriculture) of the California Administrative Code and adopts regulations in Title 3, California Administrative Code as follows:

Adopts new Section 3557 to read as follows:

Section 3557. Seed Screenings and Cleanings.

Pursuant to authority granted in Sections 16 and 154.4 of the Agricultural Code, the director of agriculture hereby adopts this regulation pertaining to seed screenings and cleanings for the purpose of preventing the dissemination of the seed of any pest through the movement of seed screenings or cleanings from crop seed. Any lot of seed screenings or cleanings from crop seed containing the seed of any pest together with its container is a public nuisance. (Section 154.3, Agricultural Code.) All such screenings and cleanings shall be handled in accordance with the procedures set forth in Section 154.3, Agricultural Code, and this regulation. This order implements Sections 154, 154.3 and 154.4 of the Agricultural Code.

**(a) Definitions, as used in this section:**

(1) "Screenings" means seed screenings or cleanings from crop seeds, and includes all products or materials removed from crop seed by any means whatsoever.

(2) "Pest" means any form of vegetable life that is or is liable to be dangerous or detrimental to the agricultural industry of the state. (Sec. 100, Agric. Code.)

(3) "Crop seed" means the seed or seed-like fruits of grain, beans, flax, beets, onions or any other crop, whether or not intended for planting purposes. (Sec. 100, Agric. Code.)

(4) "Processing" means cleaning, grinding or other treatment, including destruction, of screenings to prevent the dissemination of the seed of any pest or render the seed of any pest present or liable to be present incapable of reproduction.

**(b) Inspection:**

(1) If upon inspection the commissioner finds the screenings to be free of the seed of any pest he shall release the screenings with an inspection and release stamp. The lot of screenings shall be marked or segre-


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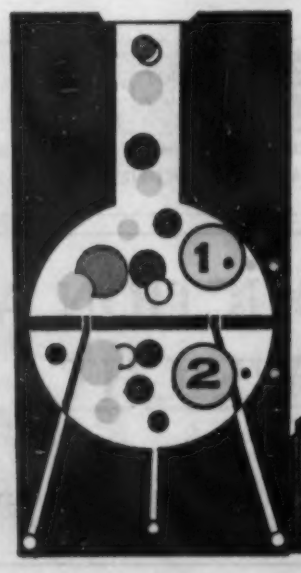


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## GMI STOCKHOLDERS TO MEET VIA COAST-TO-COAST TV

**MINNEAPOLIS — General Mills, Inc., will tell its company story to stockholders via coast-to-coast television Oct. 29—a "first" in American business. General Mills stockholders will convene at 4 p.m. (EST) on that date in New York, Boston, Buffalo, Chicago, Minneapolis, Los Angeles and San Francisco to see and hear a closed circuit presentation of GMI activities emanating from New York and Minneapolis. It will be the first time that an American company has held a similar stockholder meeting.**

gated in order to maintain its identity until final disposition.

(2) If upon inspection the commissioner finds the screenings to contain the seed of any pest, he shall notify the person in possession that such screenings are subject to the processing requirements as set forth in Section 154.3, Agric. Code.

**(c) Approved Processing Mills or Establishments:**

(1) Any person operating a mill or establishment which processes screenings containing the seed of any pest may apply to the commissioner for approval of the equipment and operating procedures. Approval for processing shall be granted whenever the commissioner determines that the equipment is adequate and is operated in such a manner as to handle screenings without risk of disseminating the seed of any pest or in such a manner as to render the seed of any pest incapable of reproduction.

(2) Approval may be withdrawn at any time upon determination by the Commissioner that the terms of approval are not complied with.

(3) The commissioner shall list with the director all mills and establishments for which approval has been granted, together with the conditions, if any, of such approval, and shall notify the director of any approval withdawn, and the reasons therefor. A list of approved processing mills and establishments including the conditions under which the approval was granted shall be issued as a supplement to this regulation.

**(d) Permits:**

(1) Applications for permits to move screenings containing the seed of any pest for destruction or processing shall be made to the commissioner of the county in which the screenings are located. No permit shall be issued for movement of screenings into another county except to processing mills and establishments approved by the commissioner of the county of destination, as provided in paragraph (c) above.

(2) Permits shall be in writing, listing the name and address of the permittee, owner or person in possession of the screenings, and the name of the approved processing establishment receiving the screenings. A statement naming the pest or pests present and any other conditions governing the use of the permit such as tight containers, holding for destination inspection, and expiration date may be included. The original of each permit shall be signed by the enforcing officer.

This order shall take effect on the 30th day ofter the date of its filing with the secretary of state as provided in Section 11422 of the Government Code.

## *July Fish Meal Output 19% Over Last Year*

WASHINGTON — July's U.S. fish meal and scrap production was 19% greater than for the same month last year.

The Bureau of Commercial Fisheries reported that 52,000 tons of fish meal and scrap and 4.1 million gallons of marine-animal oils were produced during July in the U.S. and Alaska. The oil increase over a year earlier was 8%.

Menhaden meal production for the month (43,000 tons) was 28% greater than for the corresponding month of 1958. The menhaden oil yield (3.2 million gallons) represented an increase of 17%, accounting for 78% of the month's total oil yield.

A jump of 61% was taken in the production of homogenized-condensed fish, comparing the 10 million-pound output of July, 1959, with that of the same month of the previous year. The bureau said 5.6 million gallons of fish solubles were produced, 29% above that reported for July, 1958.

Meal and scrap production during the first seven months of this year amounted to 145,000 tons — a 36% gain over the same 1958 period. Marine-animal oil production of 12.3 million gallons during the same 1959 period was 26% greater than for the period last year.

Imports of fish meal and scrap during July amounted to 4,000 tons, a decline of 9,000 tons compared with the corresponding month of 1958. Exports of fish and fish-liver oils totaled 28.3 million pounds, 22.3 million pounds above that reported for July of last year.

## Colonial Poultry Farms Introducing Sales Plan

PLEASANT HILL, MO. — A new sales and marketing program is being presented to 160 associated hatcheries of Colonial Poultry Farms, Inc., Pleasant Hill, M. R. Irwin, Colonial president, has announced. The presentations are being initiated by Mr. Irwin and Don Butler, marketing director, at hatcheries in Cullman, Ala.; Des Moines, Iowa; Faribault, Minn., and Harrisburg, Pa.

Mr. Irwin said Colonial's sales leadership program "includes complete plans and proved techniques for the recruiting and hiring of salesmen and sales supervisors and for their sales and product education; plus sales promotion, display and merchandising aids.

"In addition, sales and merchandising helps will continue for the benefit of hatchery managers and their sales organizations."

Mr. Butler, vice president of Creative Service Associates, Inc., Dayton, Ohio, conducts the sales education meetings. He said the sales leadership program "gives the hatchery the ideas, the equipment, the plans and the training to build business locally."

Mr. Irwin added that the sales program "is designed to do a marketing job as productive" as Colonial's True-Line chick breeding program.


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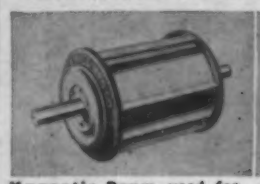

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# Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

## The Effect of Ascorbic Acid in the Diet of Adult Chickens on Calcium Utilization by the Progeny

● P. A. Thornton, C. W. Weber and R. E. Morong, Colorado State University; Journal of Nutrition, Vol. 69, No. 1, September, 1959, pp. 33-38.

**ABSTRACT**

This study was conducted to determine the relationship and effect of vitamin C and vitamin $D_3$ metabolism and their effect on calcium absorption in chicks from parents fed diets supplemented with vitamin C at levels varying from 10 mg. to 40 mg. per pound of ration. The experimental procedure consisted of dividing the chicks into two groups at random at 3 days of age and placing one group on a vitamin $D_3$ deficient ration while the other received the same ration supplemented with the addition of 13,500 I.C.U. of vitamin $D_3$ per 100 lb. of ration. The vitamin deficient ration produced typical deficiency symptoms in approximately three weeks time.

At 4 weeks of age the chicks were injected with $Ca^{45}$ into the lumen of the crop. Birds were sacrificed at time intervals of 15, 30, 45 and 60 minutes after injection. Prior to sacrifice cardiac blood samples were taken. After sacrifice the esophagus, crop, proventriculus and ventriculus were removed as a unit ("upper non absorptive area") and analyzed for $Ca^{45}$. This segment of the digestive tract was considered as the non-absorptive area. Tibia were also removed and measurements made of epiphyseal-cartilaginious plates so that values could be averaged to arrive at an estimation of the degree of vitamin $D_3$ deficiency. $Ca^{45}$ determinations were also made on the blood, and tibial uptake.

The effect of the vitamin $D_3$ deficiency of the chicks was also investigated with respect to whether or not it was affecting the rate of the feed movement to the absorptive area when compared with normal non-deficient chicks. It was shown that probably little effect on food passage rate was caused by such a deficiency since the disappearance of $Ca^{45}$ from the "upper bowel" of control chicks and deficient ones was similar up to 45 minutes after injection. Although the $D_3$ deficient group showed a lower value at 60 minutes post injection, this value was approximately equal to that of the 30 minute post injection figure for both control and deficient chicks—thus, little importance was attached to this finding, and it was demonstrated that the absence of vitamin $D_3$ in the chick diet had little effect on $Ca^{45}$ uptake.

It therefore became obvious that the presence of vitamin C in the ration of the parents was drastically influencing rate of $Ca^{45}$ uptake and retention in their progeny when given the rachitogenic diet. But this increased uptake and retention had little influence in preventing the development of the rachitic symptoms.

A small pilot study was therefore conducted to check into this somewhat unusual finding. In this study eggs were hatched from control hens and from those receiving 10, 20 or 40 mg. of ascorbic acid per pound of ration. All other procedures were similar to those described for the previous experiment. The uptake of $Ca^{45}$ in the tibia was again shown to be increased significantly in the case of the vitamin $D_3$ deficient female chicks (determinations not made upon male chicks) when the parents were given supplemental ascorbic acid. The increased uptake in the females was accompanied by somewhat wider epiphyseal plate development, while it increased noticeably at all three parental supplementary vitamin C levels in the males.

It also became apparent that in both control and vitamin $D_3$ deficient chicks from parents given supplementary ascorbic acid that the amount of $Ca^{45}$ retained by the tibia to 60 minutes post injection was dependent upon the amount of the isotope presented to the absorptive area and was accompanied by increasing blood levels of $Ca^{45}$ as late as 60 minutes post injection. This is quite different than Ca uptake blood curves reported previously (Migicovsky and Jamieson, 1955; Keane et al., 1956) which showed that specific $Ca^{45}$ blood activity reached a maximum in control chicks approximately 10 minutes after injection followed by a progressive decline. This same increase in the time of tibia retention was likewise observed in control chicks from non-ascorbic supplemented parents, but such non-ascorbic acid supplemented parent's progeny did not show this relationship when they were subjected to the vitamin $D_3$ deficient diet.

**COMMENT**

The results of this experiment are somewhat different than one would expect on the basis of a perusal of the literature concerning the known effects of vitamin C and vitamin $D_3$ on the influence of Ca uptake and the development of rickets in both chicks and other experimental diets. (Lanford, 1939; Henry and Kon, 1939; Nicolaysen and Eeg-Larsen, 1953; Bourne, 1956; Leichsenring et al., 1957).

On the basis of their results the

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authors have made several rather interesting and pertinent suggestions which seem to be well worth considering:

(1) "The bird's ability to absorb calcium will not necessarily prevent the appearance of rachitic symptoms.

(2) "Vitamin $D_3$ does not function primarily for promoting intestinal absorption of calcium.

(3) "Ascorbic acid or some agent produced by the presence of this vitamin in the parental diet acts on rachitic progeny to help maintain calcium absorption.

(4) "It appeared that the presence of this vitamin in the parent's diet may increase the degree of rickets when the progeny are given vitamin $D_3$ deficient diets.

"This leads to the suggestion that vitamin $D_3$ is necessary for normal bone development and that factors other than this vitamin can sustain normal calcium intestinal absorption."

This rather interesting paper is continuation of work with vitamin C reported from the Colorado station during the past few years. Although it is normally considered that vitamin C is present in sufficient amounts in most diets and that chickens can synthesize this vitamin, these workers first showed the supplementary amounts of vitamin C were beneficial in the laying hen's diet during hot weather to improve egg shell thickness and improve interior egg quality. The theory behind this finding was based upon the fact that the hen's blood has a lower calcium carrying capacity in hotter weather, accompanied by a disturbed calcium metabolism, and the fact that the hens eat less feed.

This finding has been put into use by certain feed companies and hatcheries this past year by adding approximately 1 oz. of ascorbic acid per ton of feed to help reduce egg breakage during the warmer months of the year, especially in the more southern sections.

Later findings by the Colorado group (1959) in this regard suggested that the mechanism by which vitamin C performs the function of increasing shell strength was mediated through the thyroid gland—but whether this is an indirect or direct effect has not been ascertained yet.

Reports by the same group at the annual meeting of Poultry Science Assn. (August, 1959) suggested that such vitamin C additions to a layer mash as ascorbic acid were almost completely stable at temperatures of 37° F., 75° F., and 85° F. for 30 days. Sodium ascorbate additions under the same conditions were shown to be approximately 90% stable.

It was also reported at the same time that when vitamin C was included in the parental diet, it tended to promote increased growth of White Leghorn chicks when hatched from eggs produced during the summer, but not during the winter. Such vitamin C supplementation failed to promote a response in broiler type breeders progeny.

## Livestock Producers, Farm Leaders Discuss Beef Promotion Plans

OMAHA — A closed-door meeting at Omaha to discuss beef promotion drew livestock and farm leaders from around the nation recently.

Spokesman for the delegates was Charles B. Shuman, president of the American Farm Bureau Federation.

He said representatives came from the American National Cattlemen's Assn. and the National Livestock & Meat Board.

Livestock leaders, he said, are concerned about state groups which are organizing to adopt "check-off" plans. Funds are raised to advertise and promote livestock and meat products.

Agricultural leaders, he said, are worried about the buildup of cattle numbers to an all-time high plus the increase in hogs.

"There won't be an immediate price bust," Mr. Shuman said, "but sooner or later we are going to get to where prices will break.

"The worst trouble in the cattle-hog business is what the government does in other agricultural operations.

"When you let politics determine the price of feed, you have created something which good feeders and breeders can't reason with. They're subject to political whims when Washington decides what the price of feed will be."

He said officials aren't concerned about the all-time record corn crop of 4,400,000,000 bu. this year.

"This is the first of a two-year transition program away from corn allotments. We knew there would be a temporary upsurge in production," he commented.

He pointed out that this increase in corn partially can be traced to less acreage devoted to the other feed grains. The problem child continues to be wheat, he added.


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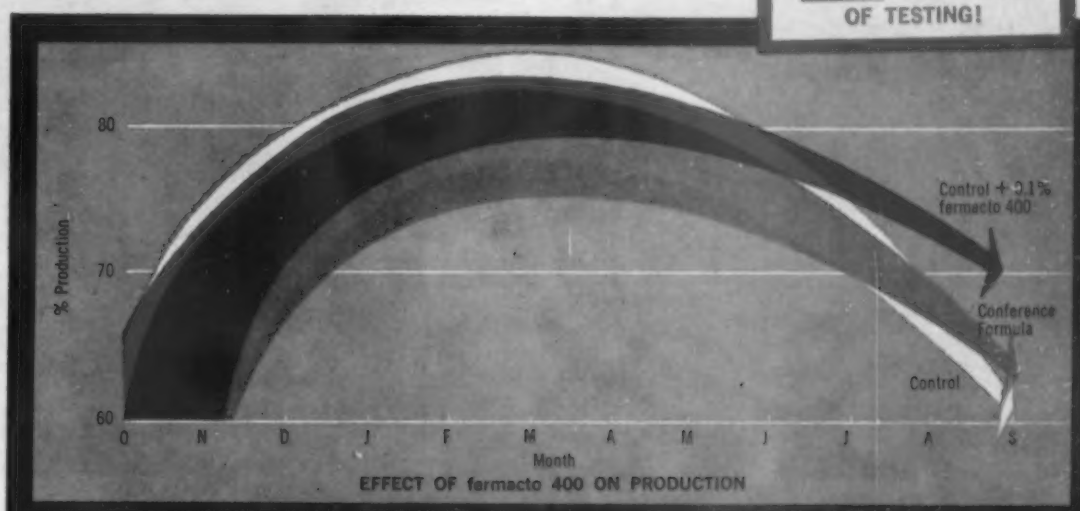

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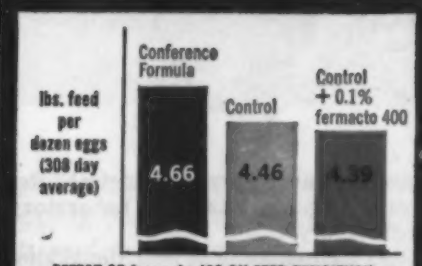

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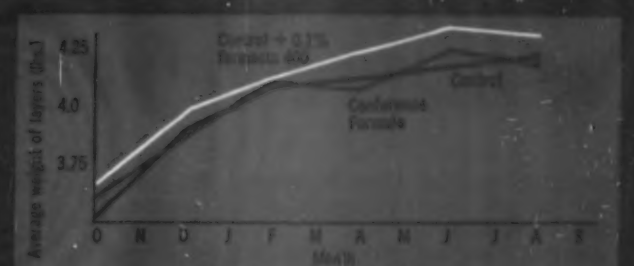


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# Hog Diseases Break Out in Iowa, Illinois

Hog cholera and other swine diseases not definitely identified have reached epidemic proportions in some Iowa and Illinois areas. Outright cases of hog cholera have been found, but, in addition, there have been signs of other diseases.

Major outbreaks in Iowa have been in parts of Franklin, Cerro Gordo, Emmet and Palo Alto counties in the north central region of the state. In Illinois, the hardest hit areas are Mercer, Lee, Bureau, Henry, Knox and Rock Island counties in the northwest part of the state.

University of Illinois and Iowa State University veterinarians believe the current disease outbreak is the result of several factors: (1) Some farmers have not vaccinated their animals against hog cholera, because recent cholera losses have not been serious; (2) it is possible that new infectious strains of hog cholera virus may be breaking through vaccination protection; (3) swine producers have difficulty recognizing hog cholera in their herds because the disease is "tricky" and are confused about the symptoms, and (4) veterinarians may find that revaccinating apparently healthy swine in infected herds may delay the infection but does not entirely prevent its spread.

Dr. Maynard Spear, Iowa State extension veterinarian, said the only way to cope with hog cholera is to adopt vigorous preventive measures before an outbreak occurs.

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### FEED BUSINESS PURCHASED

LYNDEN, WASH.—Henry Bennett, Everson, and Lawrence Vander Giesen, Lynden, have purchased the feed grinding business operated by Richard Waldermar for the past two years. Mr. Bennett will be in charge of the operation which will be known as Bennett & Vander Giesen.

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Doctor—"That pain in your leg is caused by old age."

Grandpa—"Nonsense. The other leg is the same age and doesn't hurt a bit."

◆ ◆ ◆

It's reported that insanity is decreasing. But it may be only because so many things that used to be considered crazy are now quite common.

◆ ◆ ◆

The kindergarten teacher was trying to teach the small fry how to count money. Placing a half dollar on her desk, she asked sharply, "What is that?"

One wee voice from the back row piped up, "Tails."

◆ ◆ ◆

A man in Alaska was arrested for bigamy. He had a wife in Nome, another in Fairbanks and still another in Juneau. The judge looked at the culprit and sternly asked, "How could you do such a thing?"

To which the bigamist replied, "Fast dog team."

◆ ◆ ◆

The second floor tenant called the party below and shouted: "If you don't stop playing that blasted saxophone, I'll go crazy."

"I guess it's too late," came the reply. "I stopped an hour ago."

◆ ◆ ◆

Two women who had not seen each other for a long time met on the street one day.

"Why, Mary," said one of them. "I see you got your new fur coat after all. I remember that you said your husband couldn't afford to buy one."

"So I did," replied the other, "but we had a stroke of luck. My husband fell and broke his leg, and the insurance company paid him $400."

◆ ◆ ◆

"Well, I must go home and explain things to my wife," the man said, looking at his watch.

His bachelor friend looked at him with astonishment. "What things?"

The married man shrugged his shoulders. "How do I know?"


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The Best Company packs 80# of fertilizer in a sewn valve bag, 15" x 4½" x 32½". The old 4-ply natural kraft bag they used was 1/40, 2/50, 1/60, totaling 200# basis weight. The 3-ply WONDERWALL bag they are now using is 2/50, 1/70, totaling 170#. These bags—15% lighter—have proved to be *stronger* than their previous 4-ply bags!

WONDERWALL is West Virginia's new, tougher multiwall that outperforms ordinary bags because it's made of Kraftsman Clupak* paper. This extraordinary paper stretches and withstands punishment that breaks ordinary kraft. Best now plans to use bags made from Clupak extensible paper exclusively.

Besides obtaining reduced breakage, many companies packing fertilizers, feed, cement, chemicals and similar products are also achieving substantial *bag cost savings* through use of the lighter, tougher WONDERWALL bags.

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**AFMA Discussion**

# MARKETING THE END PRODUCT

*EDITOR'S NOTE: The four talks published on this page made up the prepared presentations in a panel discussion on "Marketing the End Product" during the recent first annual conference of the Sales Executives Council, American Feed Manufacturers Assn., in St. Louis. Mr. Firestone is president of the Firestone Co., division of Southern States Cooperative, Inc., Troutsville, Va.; Mr. Hendrickson is marketing manager, poultry feed and poultry products, General Mills, Inc., Minneapolis; Mr. Prigmore is assistant general manager, Eastern States Farmers Exchange, West Springfield, Mass., and Mr. Ray is vice president of the Chickasha Cotton Oil Co., Ft. Worth. Moderator of this panel was Maurice Johnson, Professional Feeds division, Spencer Kellogg & Sons, Inc., Kansas City.*

## *Ray E. Firestone, The Firestone Co.*

**"It appears to be a good business to be in only when it is necessary to a healthy feed sales business."**

American agricultural efficiency has been developed by a series of changes and revolutions. None of these have been more severe than the American agricultural revolution now in progress. The changes now taking place are much more severe than some of the changes that have gone before because they are faster, and the economic effects much greater.

The milling industry is definitely one of the most important cogs in the American agricultural scene, and those of us holding responsible positions in the feed industry cannot afford to ignore the changes in the food and marketing field that directly affect the sale of our products.

Selling and merchandising methods are changing rapidly. Very few of the methods employed a few years ago are effective today. We can no longer consider an order for feed and delivery of the product as final in our sales effort.

We must concern ourselves not only with the quality of the product produced, but also we must be concerned about the return of a profit to our customer so that he might be financially able to continue buying our feed. This naturally brings up the question of marketing. We must realize that without an efficient marketing arrangement we cannot maintain a healthy customer relationship.

This brings us to consideration of the question at hand, "Marketing the end product." Perhaps the first question we should ask ourselves is, should the feed industry concern itself directly with the marketing of the products produced by manufactured feeds? I think the decision on this will vary according to areas and according to products. It appears that a very good and satisfactory job of marketing is being done in the dairy field, while there are other products produced from feeds that are efficiently marketed in some areas and not so well marketed in other areas.

**Required for Feed Sales**

We must, therefore, definitely concern ourselves with the marketing of the end product. The determining factor of whether feed people should enter the marketing field is whether it is necessary in order to secure markets for feed customers.

It is a fact that we cannot enjoy a healthy feed business with feeders

(Turn to FIRESTONE, page 85)

• • •

## *R. M. Hendrickson, General Mills, Inc.*

**"End product marketing . . . is being forced on us whether we like it or not."**

These are exciting and perhaps precarious times for the poultry industry, and in turn for the feed industry. No man knows what developments may face us in the future.

It's like the comment the cab driver made to the tourist who was riding past the government archives building in Washington. The tourist looked at the carved words, "What is past is Prologue," and wanted to know what it meant. "It means," said the driver, "that you ain't seen nothing yet." I do not know of any statement that could so briefly and aptly describe our situation today.

Egg and poultry marketing has become a hot topic of conversation among people in the feed industry. Why? Because there is a growing realization that our selling job is no longer over after we deliver the feed to our customer's farm. His marketing problems have become our problems and, in many cases, all of his problems have become our problems.

**Sharing Responsibility**

If his poultry and eggs are not sold in volume, and at a price which is higher than the cost of production, we suffer with him because we cannot collect our line of credit. I believe it is rather obvious to everyone that we must be concerned with end product marketing.

There are certainly advantages and disadvantages, plus numerous problems, in getting involved in end product marketing. It certainly changes your entire perspective, and literally changes you from a feed processor to a food processor overnight.

Some potential disadvantages are:

1. The necessity of additional capital.

2. The practical necessity of also becoming a producer or contract grower in most cases.

3. The psychological effect on present dealers and feeders.

Some problems to worry about are:

1. Training of servicemen to properly supervise growing operations.

2. Deciding where, how, when and with whom to work in setting up growing programs to supply individual processing plants.

3. The decision as to corporate ownership of a processing plant, or whether a plant should be leased, or whether contracts should be made for custom processing of company owned products or customer owned products.

4. If not a company growing program, to what degree should marketing assistance be given to sale of feed customers' poultry and eggs?

5. Formation of a marketing organization within your company for sale of poultry and eggs produced in company owned growing programs.

6. Decisions on growing contracts.

7. Decisions on potential marketing contracts.

(Turn to HENDRICKSON, page 85)

## *W. H. Prigmore, Eastern States Farmers Exchange*

**"We became involved in . . . activity which is a long way from the feed business as we have known it and liked it. We started broiler contracting."**

There are numerous ways of becoming involved in a new business venture. One is to accept a challenge. That's how we became involved in marketing eggs and operating a poultry processing plant.

We are predominantly a feed manufacturing and distributing organization, as this function represents about 70% of our business. We have been in this field for 41 years with no "marketing of the end product" experience, and no long-range planning which envisioned this type of cooperative activity.

Summarizing a year of hard work and 118 scheduled meetings in a few words, we merged with six New England marketing cooperatives, and on June 1 of this year we woke up in the egg marketing and poultry plant operation business. The total operation is small, involving about 800,000 cases of eggs per year, and the processing of 100,000 poultry units per week, but the basic problems to be faced by a feed manufacturer are the same, large or small. Market-wise, we picked a great time to start this new venture.

During the past year we became involved in another form of activity which is a long way from the feed business as we have known it and liked it. We started broiler contracting—which eventually leads to "marketing the end product."

We were one of the last of the major feed manufacturers in the Northeast to succumb to this form of insanity. Our involvement represents only a small percent of our feed tonnage, and our experience to date has been frustrating.

Why did we enter this field?

1. Our members wanted it, and went elsewhere when we failed to provide the service.

2. We were eliminated from the broiler feed business, which had been substantial, and we were unable to replace this tonnage by increasing the distribution of other feed items.

3. We felt it desirable to experiment and gain some first-hand experi-

(Turn to PRIGMORE, page 85)

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## *Paul R. Ray, Chickasha Cotton Oil Co.*

**"The grass looks green to some when viewing integration. But do not overlook the attendant problems —you take on a vast new management problem."**

The topic as shown on the agenda is "Marketing the End Product." We have only recently added a merchandising egg company to our operations; therefore, our experience is limited in this phase. Certainly we found the need to own and operate an egg plant to cover growing operations. For some reason these seminars or conferences seem always to get back into the topic of integration, and it's understandable. Marketing, after all, is one of the many steps or departments of the integrated whole.

Integration is not a new system to American industry—it's just new to the feed industry. Examine, if you will, the structure of General Motors. A whole series of wholly owned or partially owned subsidiaries supply the many parts and accessories to any automobile—Delco batteries, generators, air conditioners, die casting plants, headlights, credit companies. At one time they owned a big slice of automobile distributors (the consumer marketing phase) until "Uncle" suggested that might be going too far.

**One Step of System**

So, marketing the end product in our business of feed, hatcheries, layers, turkeys, etc., is a step or department of the system.

This marketing company is definitely an important part of the whole —up to this point in the system there has been nothing but expense and cost. Profitability of the whole depends on what this department is

**MARKETING PANEL—"Marketing the End Product" was discussed by a panel of feed men at the first annual conference of the Sales Executives Council of the American Feed Manufacturers Assn. in St. Louis. Shown are (left to right): Maurice Johnson (moderator), Professional Feeds division, Spencer Kellogg & Sons, Inc., Kansas City; R. M. Hendrickson, General Mills, Inc., Minneapolis; Ray E. Firestone, the Firestone Co., division of Southern States Cooperative, Inc., Troutsville, Va.; William H. Prigmore, Eastern States Farmers Exchange, West Springfield, Mass., and Paul R. Ray, Chickasha Cotton Oil Co., Ft. Worth.**

able to squeeze from the retailer and consumer.

We strive for each department of the system to stand on its own, there is no problem for the feed plant to make a healthy profit—considerably more than normal—because sales, advertising, service, and all the fringes of other costs are not present. Certainly our hatcheries have an economical opportunity—the elimination of these costs. The growing operations at five locations do not have it quite so easy; we have a monthly profit and loss sheet on every flock we own, showing layer and turkey depreciation monthly, the interest cost, labor, housing, mortality, feed consumption per dozen, percentage of production, grade out, and remaining investment.

The egg plant must credit those flocks for these eggs at prevailing market price—no less.

Some months, as these little corporations' operating statements come in, some phase may show a loss—when eggs this spring were at a 25-year low, our laying hen department lost money. Our unit cost was too high. Now six months later, we have knocked many of these costs down, and we believe we could go through that same market profitably.

The grass looks green to some when viewing integration. But do not overlook the attendant problems — you take on a vast new management problem. You start searching for a new type manager. So in short, whether integrated or not, marketing the products produced from feed is essential to your long term best interest.

## FIRESTONE

(Continued from page 84)

who do not have access to good markets. Therefore it is necessary for us to analyze each of our situations and determine whether marketing facilities are adequate. If they appear to be adequate, then feed pepole will avoid some additional headaches if they stay out of the marketing field.

If markets are not adequate, or existing marketing facilities are being used to gain a competitive advantage for competition, then feed people have no choice, they must enter the marketing field to protect their future business.

Marketing any part of the products produced from commercial feeds brings up an entirely new set of problems. These will include such things as processing, special types of packaging or preparation for market, transportation, storage, etc. It appears to be a good business to be in only when it is necessary to a healthy feed sales business.

## HENDRICKSON

(Continued from page 84)

8. Decisions on whether to sell under your brand, or whether to private label or bulk pack.

9. Decisions on how much money can safely be spent to promote your own brand in opposition to other brands.

10. Need for thorough market analysis to determine what markets to penetrate, and the share of market which could be captured.

Even with many disadvantages and problems self evident, there are some very potent advantages to a feed manufacturer in end product merchandising:

1. It broadens the base of your operations to include an opportunity for profit on the end product as well as on feed.

2. It also allows you to set up poultry and egg production for a definite market which should give your feed operation more stability because it allows you to schedule production of your feed mills at your discretion.

3. Control of end product marketing should reduce or at least alleviate some credit problems.

4. Provides for much more economical use of personnel, particularly salesmen and servicemen, and so reduces your expense rate per ton.

If you do decide to do end product marketing, how do you organize a marketing plan to establish brand preference for eggs or poultry in a consumer market, and compete successfully with other food products? First, I would say that we must for-


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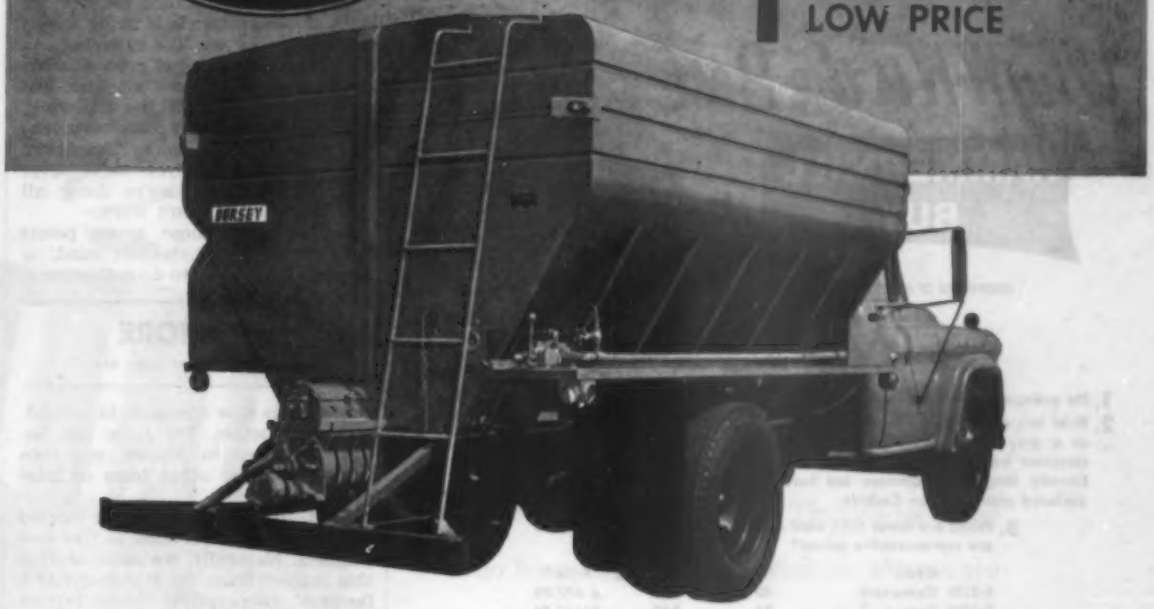


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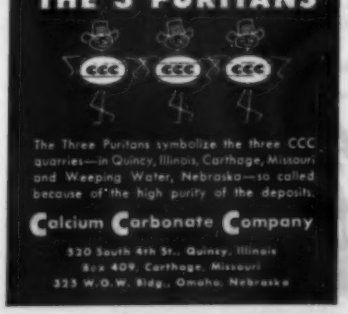

The Three Puritans symbolize the three CCC quarries—in Quincy, Illinois, Carthage, Missouri and Weeping Water, Nebraska—so called because of the high purity of the deposits.

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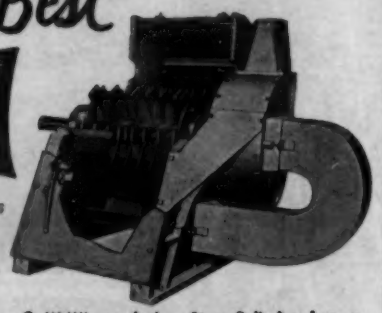

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get everything that has been done in the past in the egg and poultry marketing field. We must rid ourselves of our out-dated ideas regarding margins, pricing, distribution patterns, packaging, selling, etc. In short, we must approach the problem almost as if we were putting a brand new product on the market.

**Competitive Food Items**

Eggs and poultry are competing with a tremendous assortment of brand name food products for the privilege of traveling down the alimentary canal of American consumers. In present day food selling, convenience and variety, plus a concentrated marketing program, are the keys to success in the consumer food market. The many new products on grocers' shelves are examples of this need for prepared food service in the consumer food market.

During this tremendous increase in consumer food services since World War II, we, as feed manufacturers, have been content to exist as raw material suppliers to poultry and egg growers and processors. We said it was our job to make feed for them, not grow birds or process eggs and poultry. As long as there were a lot of growers and processors who could pay their bills, and competition wasn't too tough, we didn't worry. In the last few years, we have gradually gotten into the growing end, but have not worried too much about processing.

Now, all of a sudden, we have discovered that the processor is just a processor. He is not selling the end product. Except in rare cases, he's just dumping it on the food market.

There seems to be little doubt about whether we should get into end product marketing. It is being forced on us whether we like it or not. As you approach your end product marketing problem, do not sit back and resignedly say one of the following: We tried that once; it costs too much; it isn't our job; I don't think we're quite ready for that yet; we've never done it that way; we're doing all right now, or it won't work.

Let us keep those seven points from affecting our state of mind, or we may fall victim to do-nothingness.

## PRIGMORE

(Continued from page 84)

ence in this new approach to agricultural production. We have not become involved in market egg contracting or any other form of integration.

Next, an evaluation of our limited experience as it pertains to the feed business. Naturally, we must analyze this subject from the standpoint of a farmers' cooperative. Some factors which are important to us may have little significance for most of you.

**Advantages**

Advantages are:

1. An effort is being made to help the member market his product, not simply sell him production supplies, resulting in some small support of the feed program.
2. Our position is more secure if integration is to be the pattern of the future.
3. The added publicity has some value.
4. There is some potential for stabilizing feed tonnage, but not with our minimum approach. We do not require the use of Eastern States feed in order to market eggs or poultry through Eastern States.

**Disadvantages**

Disadvantages are:

1. A member or customer is more critical of a payment made to him for his product than he is of the quality or price of a commodity sold to him.
2. Marketing and sales personnel relations require special attention to minimize problem areas. A member may be a small, unsatisfactory egg shipper, but a large user of dairy feed. A feed salesman is inclined to become involved in a marketing deal which he does not understand to interest a feed prospect.
3. In a cooperative the matter of financing becomes important. The dairyman, for instance, wants to be assured that he is not supplying capital or standing part of the loss for a broiler or egg marketing project.
4. Any involvement in marketing in a cooperative opens the door for producers in such diversified fields as fruits, vegetables, potatoes or maple syrup.

## *Swine Production Discussed at Utah*

OGDEN, UTAH — Dr. James A. Bennett, head of the animal husbandry department, Utah State University, told hog producers and handlers attending an educational swine short course at Ogden that proper selection in breeding has more to do with producing the type of pork housewives desire than feeding practices.

He said the percentage of lean meat can be increased by regulating the feeding and by adding more roughage to the ration, but feeding out as fast as possible on high concentrate rations makes the most money.

Prof. Earnest M. Morrison, head of the university's agricultural economics department, stated that some Utah farmers can invest their labor, capital and feed in hogs with better success than in any other enterprise. He pointed out that recent studies showed hog production was second to grade A dairy production in Utah in percentage of net returns to the producer.

Dr. LeGrande Shupe, of the university's veterinary experiment station, emphasized that proper management to prevent disease is much more important than cure. A successful hog producer needs to have knowledge of genetics, and of comparative feed values and diseases, he said.

## Hot Spot Installations

DES MOINES, IOWA — Hot Spot Detector, Inc., Des Moines, has announced 130 recent installations of Hot Spot Detector equipment. The locations, and number of installations in each, are as follows:

Nebraska, 24; Iowa, 12; Colorado, 5; Arkansas, 5; South Dakota, 1; Texas, 23; Washington, 1; Illinois 16; Costa Rica, 1; Kansas, 9; Ohio, 15; Indiana, 2; North Carolina, 1; Florida, 1; Georgia, 5; Louisiana, 3; Delaware, 1; Alabama, 1; Tennessee, 1; Montana, 1; Oklahoma 1, and Puerto Rico, 1.

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IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR FOOTED ANIMALS

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30% corn distillers grains

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It goes on every week — like the production and availability of Solulac! That's why those who formulate feeds with Solulac always are confident of a continuous supply. Make use of Solulac with its high nutritional values, its GFF (Grain Fermentation Factors — unidentified growth factors found exclusively in Distillers Feeds) and vitamins. Guaranteed to be free flowing. Available in 50 and 100-pound bags or bulk carloads. Write, wire or phone. Grain Processing Corporation is also a continuous source of corn distillers dried grains.

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# WORTH LOOKING INTO

NEW PRODUCTS • NEW SERVICE • NEW LITERATURE

DESCRIPTIONS OF NEW AND IMPROVED PRODUCTS AND SERVICES PROVIDED BY MANUFACTURERS AND SUPPLIERS ARE PRESENTED IN BRIEF FORM. FOR ADDITIONAL INFORMATION, PLEASE USE THE ACCOMPANYING COUPON.

## No. 7686—Health Product Promotion

Merck & Co., Inc., announces a special-offer promotion for its S.Q. boluses or tablets and its Sulfastrep boluses. Included in the merchandising kit are photos, literature, selling sheets, radio spot announcements,

display cards, newspaper mats and other merchandising aids. The offer will run through Dec. 18, 1959. For details, check No. 7686 on the coupon and mail.

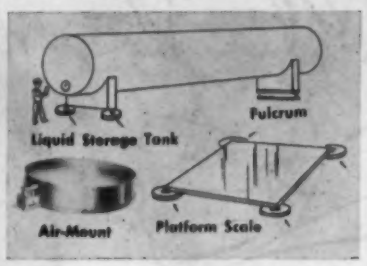
## No. 7690—Conveyor Holdbacks

Stephens-Adamson Manufacturing Co. announces development of two types of holdbacks, a standard roller type holdback and a totally enclosed type holdback, designed to protect personnel and equipment from reversal of conveyors and elevators. The standard roller type is designed to give protection to bucket elevators and inclined conveyors. According to

company literature, with the installation of this unit on the head shaft, a conveyor or elevator can be stopped at any time without the danger of the load traveling backward. The unit features a balanced design with no ratchet. It operates on the roller wedge principle, so that when power is interrupted, or when the belt makes the slightest move backwards, the rollers wedge between the drum and wedge-plate, preventing reversal. It is available in bore sizes 1-7/16 in. to 8 in. The totally enclosed holdback features a cast steel housing hardened wedge block and hardened steel rollers. It was designed for protecting inclined conveyors and bucket elevators. If power fails and the shaft tends to reverse, the steel rollers engage instantly. The unit releases freely when forward travel is resumed. The totally enclosed design prevents entry of dust, dirt and foreign matter, the company says. For more information, check No. 7690 on the coupon and mail.

## No. 7687—Weighing System

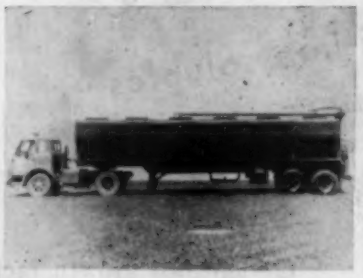
The "Air-Mount Weighing System" for weighing the contents of bins, tanks, truck tanks, conveyor loads and anything that can be weighed on platform scales, has been announced by Weber Air-Weigh Co. The system




is available for loads covering the range from 0 to 300 lb. to 0 to 200,000 lb. According to the company, the units have a repeatable accuracy of better than 1/10 of 1%. The system is operated by a small load-cell placed under each leg of a tank, bin, conveyor system or what have you. Linear pneumatic pressure is automatically controlled in each load-cell and produces a pneumatic signal on a meter, which may be remotely located. Installation time is normally less than one hour, the company says. For literature about the system, check No. 7687 on the coupon and mail.

## No. 7688—Bulk Material Trailer

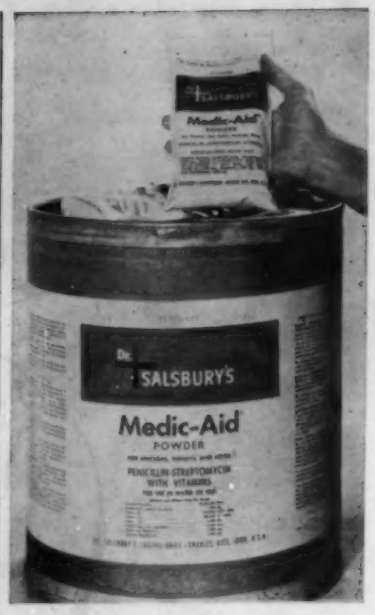
A semi-trailer "Skoop Skipper" has been added to the Pamco line by Productive Acres Manufacturing Co. The unit combines all the features of the Skoop Skipper with a larger capacity, the company says. It loads and unloads and handles many bulk materials including corn cobs, feed and fer-



tilizer. A positive seal assures against leakage of feed or other materials from the compartments, the company noted. Each auger is driven individually by its own hydraulic motor. If any auger binds due to foreign objects in the material being handled, a safety valve immediately stops operation. The trailer's master control unit at the rear is designed for complete and easy operational control. For more information, check No. 7688 on the coupon and mail.

## No. 7689—Animal Health Product

"Medic-Aid Powder," a combination vitamin and antibiotic product for chickens, turkeys and hogs, is now being marketed in 8 oz. plastic packages, announced Dr. Salsbury's Laboratories. Fifty plastic bags are contained in a 25 lb. drum. Each bag




will medicate 55 gal. of drinking water, the company says. For further information, check No. 7689 on the coupon and mail.

## *Also Available*

**The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number on the coupon and forwarding it to Feedstuffs.**

**No. 7633**—Vibration inducer, Martin Engineering Co.

**No. 7634**—Pig raising information, Chore Boy Manufacturing Co., Inc.

**No. 7635**—Mastitis ointment, Merck & Co., Inc.

**No. 7646**—Impact mill, Safety Industries, Entoleter Division.

**No. 7647**—Grain storage building, Stran-Steel Corp.

**No. 7648**—Grain cleaner, Superior Co.

**No. 7649**—"New Leader" spreader, Highway Equipment Co.

**No. 7650**—New package size, Hess & Clark.

**No. 7651**—Boiler bulletin, Superior Boiler Works.

**No. 7652**—Feed grinder bulletin, Gruendler Crusher & Pulverizer Co.

**No. 7653**—Cattle cobalt bullet, Nichols of America Ltd.

**No. 7654**—Feed body options, Gad-

*A Reminder About*

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Handle the line of baler twine that comes direct to you from the one and only spinning mill in the fiber-producing country, offered to you through the sole U.S. and Canadian selling agents; AAA-1 rated, established 34 years.

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☐ No. 7687—Weighing System
☐ No. 7688—Bulk Material Trailer
☐ No. 7689—Animal Health Product
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(PLEASE PRINT OR TYPE)

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**No. 7655**—Hydraulic mobile mill, Iowa Portable Mill.

**No. 7656**—Sales letter booklet, Gladwin A. Read Co.

**No. 7657**—Belt joining booklet, Imperial Belting Co.

**No. 7658**—New control unit, Hot Spot Detector, Inc.

**No. 7659**—Bulk feed handler, Dodgen Industries.

**No. 7660**—Lamb hormones, Chas. Pfizer & Co., Inc.

**No. 7661**—Bulk feed body, Gaddis Bros. Manufacturing Co., Inc.

**No. 7662**—Fly maggot control, Allied Chemical.

**No. 7663**—New hopper, Richardson Scale Co.

**No. 7664**—Vitamin products, Merck & Co., Inc.

**No. 7665**—Pneumatic conveying data, Sprout, Waldron & Co., Inc.

**No. 7666**—Continuous voltage stabilizer, Hot Spot Detector, Inc.

**No. 7667**—Electric vibrators, Cleveland Vibrator Co.

**No. 7668**—Mobile air unit, Ripco Air Systems, Inc.

**No. 7669**—Vibrating screen, the C. O. Bartlett & Snow Co.

**No. 7670**—Hog production record, American Cyanamid Co.

**No. 7671**—Grain handling system, Dunbar Kapple, Inc.

**No. 7672**—Indicator unit, Richardson Scale Co.

**No. 7673**—Egg business record, L. A. Pockman Manufacturing Co.

**No. 7674** — Shredder - hammermill, Jacobson Machine Works.

**No. 7675**—Bulk delivery unit, Sudenga Industries.

**No. 7676**—Grain, seed dryer, A-C-E Supply & Equipment Co., Inc.

**No. 7677**—Automatic bagholder, Richardson Scale Co.

**No. 7678**—Products catalog, General American Transportation Corp.

**No. 7679**—Conveyor belts, Cambridge Wire Cloth Co.

**No. 7680**—Bovine mastitis treatment, Squibb Division of Olin Mathieson.

**No. 7681**—Bin level controls, Stephens-Adamson Manufacturing Co.

**No. 7682**—General catalog, Dow Chemical Co.

**No. 7683** — Combination spreader, Gaddis Bros. Manufacturing Co.

**No. 7684**—Multiple vaccine, American Scientific Laboratories, Inc.

**No. 7685**—Lamb hormone implants, Chas. Pfizer & Co., Inc.

### TANKER UNLOADS

TOLEDO, OHIO — The tanker Elizabeth H discharged 9,000 tons of Cuban blackstrap molasses into a tank of the Industrial Molasses Corp. at Presque Isle recently. It was the ninth ship to unload cargo at the facility which opened May 26. To date the firm has received 30,000 tons of liquid cargo at the site, including fish solubles and molasses.


**WHOLE FISH MEAL**
(VioBin Process)
★ ★ ★ ★ ★ ★
***All the Fish Meal***
**PLUS**
***all the Solubles***
Guaranteed to give almost 2 times growth response due to "unidentified growth factors" . . . compared to pressed meal
Protein biological value of raw fish
Write for detailed information
**New Bedford Fish Products Co.**
New Bedford, Massachusetts


## Corn Solubles Found To Be Good Chick Feed

EAST LANSING, MICH. — A by-product of commercial corn fermentation processes can make a good chick feed, according to research at the Michigan State University Agricultural Experiment Station.

The product, called corn fermentation solubles, supplies unidentified factors chicks need for rapid growth plus providing protein and energy chicks can use. The solubles are what is left after the starch is removed from the corn.

In the tests, the fermentation solubles replaced equal amounts of fish meal in an experimental corn and soybean meal ration, Dr. P. J. Schaible, poultry scientist, said.

The fermentation solubles did the best job of stimulating growth of chicks when included in diets containing over 1,000 calories of productive energy per pound of feed, Dr. Schaible noted.

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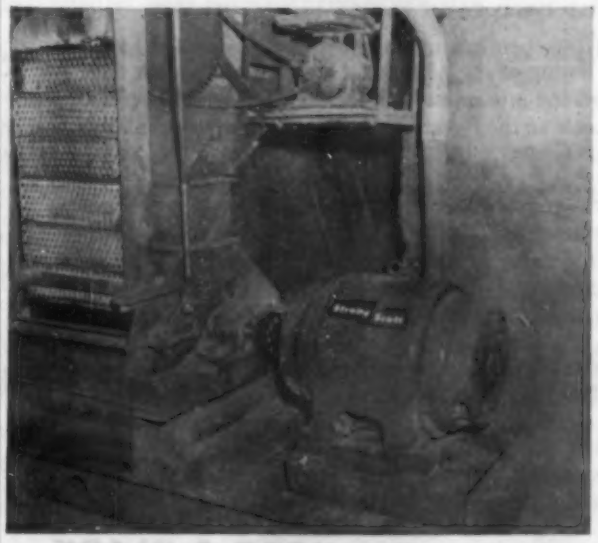
**"WE CUT OUR GRINDING POWER COSTS BY 29% AND DOUBLED OUR FEED VOLUME..."**

*says Galen Hartung, manager of Dane County Farmers Union Co-Op, Cottage Grove, Wisconsin*

Galen Hartung, above, manages the new Dane County Farmers Union Co-Op elevator which was completed in 1958 by Hogenson Tank and Construction Co.


Not one screen has had to be changed on this Hammermill. The 100 H.P. motor on the mill and 40 H.P. on the blower provide the ideal combination for efficient, high-capacity grinding at Dane County Farmers Union Co-Op.

"One year ago we installed our Strong-Scott quick change Hammermill," said Galen. "Since then, our books show that we have doubled our income from grinding and that our power costs were 29% less than what they used to be with our old mill.

"We are still grinding on the first of the four corners of the hammers which have given us over $14,000.00 income at a charge of 8 cents per CWT for custom grinding.

"We get very good capacity from our Hammermill and use the quick change constantly," he concluded. "We have never had any maintenance at all." The Strong-Scott Hydraulic Truck Hoist is also used at Cottage Grove.

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## Montana Flour Mills Reports Increase in Earnings, New Plants

GREAT FALLS, MONT. — Montana Flour Mills Co. has reported earnings after taxes of $387,707 for the fiscal year ended June 30, 1959, compared with earnings of $185,267 for the previous fiscal year. Earnings are equal to $2.692 a share compared with $1.518 a share in the previous year, the report said.

In his annual letter to stockholders, C. G. McClave, president and general manager, pointed to the fact that Montana Flour Mills increased its outstanding shares from the figure of 122,024 as of June 30, 1958, to 143,989 shares as of June 30, 1959. The increase was the result of declaration of an 18% stock dividend in October of 1958.

Also, cash dividends of $86,393.40, amounting to 60¢ a share, were paid in the year now ended, compared with cash dividends of $24,404.80, or 20¢ a share, paid in the preceding year.

Montana Flour Mills added considerably to its operating facilities, working capital and long-term financing in the year just closed, Mr. McClave stated.

The summary of plant additions shows that the company added a total of over half a million dollars worth of facilities. The major items were new elevators at Havre and Joplin, Mont.; additional wheat storage at Great Falls, Bozeman and Fergus Falls; the purchase from Teslow, Inc., of the Misco feed plant at Missoula (previously operated under lease); installation of a larger, more efficient steam roll facility at the Lewistown elevator, and new bulk feed bins at Bozeman. Mr. McClave stated that management is of the opinion these additions will add substantially to the earnings potential of the company.

During the past year $15,609 was added to the company's working capital, but it was the opinion of the board of directors that additional long-term financing should be provided to enable the firm to grow and maintain its competitive position in the grain and milling industry. Accordingly, negotiations were made for a long-term loan of $1.5 million.

Mr. McClave termed the status of company labor relations as "excellent" during the past year, and concluded his report by expressing appreciation to all of those whose loyalty and cooperation made possible the progress of the past year.

• • •

## Montana Flour Mills Reelects Officers

GREAT FALLS, MONT. — The board of directors and all officers were reelected at the 49th annual shareholders meeting of Montana Flour Mills Co. Also, a stock dividend of 20¢ a share was declared, payable Dec. 10, 1959, to stockholders of record on Dec. 1, 1959.

Reelected to the board of directors were: R. J. Anderson, J. C. Berky, W. H. Bertsche, Jr., E. F. Galt, Newell Gough, Jr., H. M. Hamiston, N. J. Holder, A. W. Johnson, C. G. McClave, J. D. Stephenson and L. E. Taylor.

Officers for the current year are: Mr. McClave, president and general manager; Mr. Berky, first vice president and assistant general manager; Harry Wallace, treasurer; C. H. Wright, secretary; E. M. Murphy, vice president in charge of flour sales (also assistant secretary); H. C. Johnson, vice president in charge of formula feed division (also assistant treasurer), and W. V. Gannon, vice president in charge of production.

Of the total company shares, 91.7% were represented at the meeting either in person or by proxy.

## Broiler Union Gets New Meeting Hall

GARRISON, TEXAS — The Langston building in Garrison is being remodeled for offices and meeting hall for the Texas Broiler Assn. Broiler Grower Union, according to a report in the Texas Poultry Industry newspaper.

J. B. McMillan, president of TBA and a Garrison resident, had maintained offices in his home prior to leasing the building by his organization.

The first union membership meeting was held recently in the union hall; 86 new members were initiated into the union.

Up to the time of that meeting, no union dues had been paid, the members having been told that dues would not be assessed until organization was further advanced. By a vote of the membership, dues were set at $2.50 a month, payments to begin with the month of July.

The international dues of AMC& BW of NA, AFL-CIO, with which the TBA Grower Union is affiliated, are $1.40 a month. The average total dues of the union are $4 a month. The TBA dues were voted as a temporary measure.

A resolution was adopted at the meeting supporting poultry subcommittee hearings in the field, in view of the difficulties encountered by farm broiler growers in reaching the distant points where hearings are usually held.

## Dr. J. G. Becker Joins Nopco Chemical Co.

NEWARK, N. J. — Dr. Joseph G. Becker has been appointed to the fine chemicals division, Nopco Chemical Co., according to a recent announcement by Dr. Harold Yacowitz, director of applied research for the division.

Dr. Becker will be engaged in research on microbial products as they apply to feed, pharmaceutical and food uses.

Dr. Becker attended the City College of New York, later transferring to the University of California, where he received a B.A. degree in biology. He received his M.S. degree in bacteriology at Washington State University and his Ph.D. degree in microbiology from Purdue University.


# Four men...four problems

RALPH JAROCH, WAUKESHA, WIS. "Four weeks after caging my birds they were laying about 20%. I tested nf-180 on one row — 418 birds — and in two weeks they jumped from 138 to 358 eggs a day. They averaged 75% right through 5 hot months when I usually had a drop. Now all my birds get feed with nf-180."

ROBERT KELLER, NOTTINGHAM, PA. "I produce around 1150 dozen hatching eggs a week. After testing nf-180, I switched entirely to it. And the last three hatches came off at 87% . . . paid me a bonus of $172.00 in one month. I also like the steadier production nf-180 gives."

J. RUSSELL McKARNS, WEST UNITY, O. "Four years ago I began losing hogs to necro and bloody dysentery. We used some other treatments without results, then my feed company said to try nf-180. We tested it on half the sick pigs and in a week they were back pretty near to normal . . . and didn't come down with scours again. If it hadn't been for nf-180, we'd have been out of the hog business."

IAN S. THOMPSON, NEW HOPE, PA. "In these days of keen competition, every avenue must be employed to hold up production and cut costs. And I honestly think that to make out in the egg business, you have to have nf-180. It's cut my mortality to the lowest ever. My feed conversion is running 3.5 lbs. to a dozen eggs. After 14 months of lay, my old birds are still laying at 60-65%. I plan to keep my birds an extra 4 to 6 weeks."

## Each got fast, effective help with good feeds containing nf-180

### Feed company research shows nf-180 even surpasses claims

These four men are just a sample of the thousands who have switched to nf-180 . . . often after doing their own private testing beforehand.

Several major feed companies have tested nf-180, too. One company with extensive research farm facilities found in making its own comparisons that results considerably exceeded the conservative claims which have been made by Hess & Clark. As a result, that company now includes an nf-180 medicated layer ration in its line of feeds. (Many other feed manufacturers also regularly produce and sell nf-180 medicated feeds for poultry and swine.)

### You can list these benefits on your own feed tags

With nf-180, you can make your feed tags more than a routine listing of ingredients. Actually, nf-180 can turn your feed tag into one of your most effective sales tools. Why? Look at the benefits you can promise when nf-180 is in the feed:

**Layers** (continuous low level): Increase egg production, improve feed-egg ratio, extend egg-laying period, maintain greater laying performance during stress, improve hatchability and increase production in the early laying period.

**Swine:** Treat necro (bacterial enteritis, necrotic enteritis, black scours) and vibrionic (bloody) dysentery.

**Booster feeds:** The nf-180 label carries more poultry disease prevention, treatment and control uses than any other feed medication today.

We urge you to get the full facts on nf-180 medicated feeds and how they can be of service to you. Write or wire us . . . or ask your Hess & Clark salesman for new information which he can supply.

**HESS & CLARK**
ASHLAND, OHIO
Division of Vick Chemical Company

nf-180®
brand of
furazolidone

**Red Foley** appears every Saturday on Hess & Clark's NBC Monitor network radio program — 140 stations. He'll be telling thousands of egg producers the benefits of nf-180 medicated feeds for improved egg production. To urban listeners he'll promote new ideas for enjoying the "Golden Goodness of Eggs."

NT-9-8

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**PROVEN STABILITY:** Dawe's FIXTAY retains a high degree of potency over extended periods under normal and elevated temperature and humidity conditions. Even in high mineral mixtures, containing as much as 40% trace minerals, Dawe's FIXTAY maintained this remarkable stability:

| MIXTURE No. | No. 1 | No. 2 | No. 3 | No. 4 | No. 5 | No. 6 |
|---|---|---|---|---|---|---|
| Percent of Vitamin A remaining after 3 months | 98.6 | 97.8 | 95.4 | 98.6 | 95.6 | 95.4 |

**COMPLETE AVAILABILITY:** Biological tests prove Dawe's FIXTAY is fully available to the animal for early absorption in the digestive tract.

**UNIFORM DISPERSION:** Dawe's FIXTAY is of a particle size and shape which readily disperses and remains uniformly distributed.

Dawe's FIXTAY is available in all practical potencies. Write for samples and quotations on the potency of your choice.

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# Merchandising Nutrition Research

**"Showmanship can be used to advantage in presenting new, interesting discoveries and dramatizing new approaches to old problems."**

By Dr. E. I. Robertson
John W. Eshelman & Sons

Immediate and widespread application of nutritional research has aided in the production of a bountiful supply of milk, meat and eggs—products of our animal agriculture—that represent man's greatest advance in upgrading his diet. Consumers never had it so good as today's housewife serves her family a wide variety of food of better quality, at lower relative cost and with more built-in maid service than in any country of the world of any period in history.

Merchandising is converting needers to wanters to users, after which performance must demonstrate product value. Feed performance is a convincing demonstration of the value of nutritional research, but feeds and feed additives must be sold before used. Effective merchandising is the presentation of the product's merits that influence the prospect to buy. Showmanship can be used to advantage in presenting new, interesting or different discoveries and dramatizing new approaches to old problems.

Animal nutritionists have a wide array of information from which to select material for merchandising programs. Rarely is it necessary or desirable for merchandising programs to be as elaborate as the research on which these programs are based. In most cases, the most effective sales program is the simplest program.

### Visual Illustrations

"Seeing is believing" is a well-put phrase that says most people are convinced through sight which is also usually more effective than all other senses combined in communicating ideas from one mind to another. Visual impressions are lasting impressions which account for the effectiveness of demonstrations.

Visual illustration on a flannel board is an effective and practical method of presenting technical information to audiences in which there is a wide range of experience. More information can be presented than through words alone and illustrations may present an idea more clearly than is possible with words, or a photograph. With visual aids, discussion of any topic can occur without interrupting the continuity of the presentation. Properly lighted, both flannel board and speaker become highlights of the meeting with increased effectiveness. A touch of humor, subordinate to the theme and presented in good taste, can keep an audience attentive and add enjoyment to the learning process.

A flannel board is preferred over lantern slides, film strips or movies because the audience is not kept in the dark, a condition highly conducive to mental lethargy. Daytime presentation using color slides or movies in many rural meeting places is hampered by difficulty in darkening the room.

### Illustrated Nutrition Research

FOOD—The average consumer provides the market and the opportunity for service—and profit—to countless individuals and organizations. The built-in convenience of food products accounts for an increased proportion of the consumer dollar. Yet, with all these services, our food supply is being provided by fewer people today in America than in other countries of the world or in other periods in our history. With an expanding population approaching three million per year, food for tomorrow's meals creates no alarm for us that it might in other areas of the world.

Food is our greatest common denominator, being used in greater quantity by more people over a wider age range and more frequently—as often as three times a day—than any other commodity. With fewer people involved in providing food, an increasing proportion of the population has been freed to develop other pro-

*EDITOR'S NOTE: The need for selling the benefits of advances in nutrition brought about through research is pointed out in this article by Dr. E. I. Robertson, director of nutrition, John W. Eshelman & Sons, Lancaster, Pa., and former chairman of the nutrition council of the American Feed Manufacturers Assn. His viewpoint is summed up this way: "Feed performance is a convincing demonstration of the value of nutritional research, but feeds and feed additives must be sold before used." This article is taken from a talk given by Dr. Robertson at the 1959 Wisconsin Nutrition School.*


# You can sell best

## ...and customer satisfaction "comes in Burlap!"

**Have you ever added up the inducements you can offer when you sell sacked feed in burlap? They can help you in selling. Here they are:**

1. *A discount* on every ton of feed, when the mill provides a return-bag program.
2. *Simplified inventory* for the customer.
3. *Identification* for medicated feeds.
4. *Non-separation* of formula-ingredients.
5. *Your prices* are competitive with returnable burlap bags.
6. *Service*...you can give small customers as good delivery service as large customers (and on the same route).
7. *Bulk customers* can be served with bag-to-bulk trucks.
8. *Quantities* can be bought *as needed.*
9. Feed in burlap bags is *sanitary and free from contamination.*
10. *Accurate weights* are assured in a burlap bag.
11. *Fifty-pound* as well as 100-lb. bags can be offered.
12. Farmers have many uses for empty bags...only burlap serves them so well!

**Quite a few selling-points, don't you agree? Next time you're selling a new customer, remember there's a lot to be said for burlap bags!**

***Just ask your own customers—they'll tell you that burlap***

Is strong — takes dragging, dropping, man-handling — any tough job on the farm.
Laughs at sudden showers — wetness or dampness can't weaken it.
Saves money — extra value from re-sale and re-use.
Gives good ventilation — keeps farm supplies and products fresh.
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Where only trace minerals are to be added, Herman Nagel's Trace Mineral Concentrate supplies all eight, in correct balance.

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ducts and services that collectively raise our standard of living.

**ANIMAL INDUSTRY**—Long ago man learned the benefits of a livestock industry. Animals serve as a means of travel, a source of power and as producers of food for the human diet.

A livestock industry exists only where the productivity of the soil will support it. With increasing demands for food, a livestock industry must become more efficient since food for human needs comes first. However, a thriving livestock industry is insurance for tomorrow's meals. The animals provide an expansible, living, dynamic storage of surplus grains. They convert and condense bumper crops into compact, nourishing foods. Our animal agriculture products—milk, meat and eggs—upgrade our diet.

Better fed farm animals and poultry produce more milk, meat and eggs. Better fed animals are the result of the application of nutritional research—research that was developed at our agricultural colleges, state and federal experiment stations and, to an increasing extent, at industrial laboratories. All these findings receive widespread application through manufactured feeds and supplements.

Feed is food to a farm animal. In the conversion of feed, animals tear down, sort and reassemble nutrients into characteristic food products. This ability is inherent to the species and we are dependent on animals to upgrade our diet.

**FEED INDUSTRY**—The feed industry, spearheaded by the American Feed Manufacturers Assn., provides the know-how, the facilities and service to agriculture by providing widespread distribution of research findings that come to the farm through manufactured feeds and supplements. Research originating in the laboratory reaches the farm in improved products and services.

The feed industry is a market for the farmer's grains and a source of feed for his animals. Unlisted ingredients in feeds and supplements may be of greater importance than the products shown on the tag. Coupled with ingredients is experience, know-how and service because the feed manufacturer accepts the responsibility of combining latest research with feeding know-how to supply complete nutrition to the nation's flocks and herds. By using what we know in manufacturing feeds and supplements, benefits of research are provided to everyone.

**CARRYOVER**—Nutritional adequacy of the breeder diet has a profound and far reaching influence on the survival and well-being of the offspring. A chick's body stores of vitamins A, D, B-12, E, riboflavin and other essential factors are proportional to the level of these nutrients in the diet of the hen during the few days before the egg was laid. A layer ration, adequately fortified for producing market eggs, may fail for hatching eggs because the developing

Dr. E. I. Robertson

embryo is the only customer that expects and demands complete nutrition in the egg. Egg nutrients beyond the amounts needed for embryonic growth are engulfed before hatching and provide a legacy for life outside the shell. With this carryover of nutrients through the egg, benefits of nutritional research are transferred to the succeeding generation similar to but apart from genetic inheritance.

The carryover principle has been demonstrated in swine by providing improved nutrition for 30 days before and 30 days after farrowing which resulted in heavier pigs at birth, increased survival and better growth during early life. Improved nutrition during gestation nourishes unborn pigs and in lactation rations the nutrients beyond the sow's body needs enrich the milk for young pigs.

**NUTRITION DURING STRESS**—A bridge designed for normal conditions may be inadequate during floods. In much the same way rations for farm animals and poultry formulated to provide lowest cost nutrition during normal periods may prove inadequate when appetites lag. Appetite is the best barometer of intestinal health, in farm animals and poultry, and any decrease automatically reduces the intake of essential nutrients—nutrients that may be needed in far greater amounts because of impaired absorption, elevated temperatures and to aid in developing resistance to infections.

A practical approach is to feed a therapeutic and convalescent ration containing a treatment level of antibiotics and a concentration or "get-well-quick" level of vitamins. Started at the first indication of appetite lag, "a bag in time may save nine." In many cases, reinforced rations to insure nutrition during stress may be needed for three to five days only and provide incalculable benefits in contrast to a "wait and see" attitude. Such spiked feeds may be used following vaccination, severe weather, infections, moving and other condi-


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tions that lower appetite, with consequent drastic reduction in body vigor.

During emergencies, a fire extinguisher type feed provides immediate benefits in stopping the ravages of infection. Any delay between appearance of symptoms and initiation of treatment increases property loss in much the same way that a fire may be easily controlled at first, but with each succeeding minute there is a consequent greater property loss.

**PREVENTIVE MEDICATION** — Planned protection against expected infections bestows many benefits in improved performance and greater survival. Anticoccidial drugs provide in-feed protection to avoid the heavy loss that accompanies uncontrolled outbreaks. Though there are many varied and conflicting claims for anticoccidial drugs, a realistic appraisal indicates that all provide some benefits, but there are limitations to each.

**ROUGHAGE PLUS FEED FOR DAIRY**—Grassland farming emphasizes maximum use of roughage within seasonal limitations. Usually, lowest cost nutrients are pasture supplemented with hay and silage preserved during the periods of plenty for periods of scarcity. With maximum use of roughage, a cow producing more than 20-30 lb. milk a day requires additional nutrients, best furnished by feeds formulated to supply concentrated total digestible nutrients and to balance the known deficiencies in roughage. Failure to feed cows in addition to roughage will prevent them performing up to their bred-in capacity.

**UREA**—The majority of dairy feeds and supplements now contain urea as an economical source of non-protein nitrogen. Research a generation ago, much of it right here at the University of Wisconsin, established the benefits and economy of urea as a source of nitrogen. Yet there are still a few individuals, not in possession of all the facts, who have developed a prejudice against urea in feed but are not prejudiced against chemical fertilizers for their land. Urea in chemical fertilizers benefits soil organisms and rumen organisms in the cow can be fertilized with urea for improved performance with economy.

**CATTLE SUPPLEMENTS** — Low quality roughage has greater feeding value than formerly believed, but successful use is dependent on a well-fortified supplement to balance the deficiencies in the roughage. The supplement must supply enough protein, minerals and vitamins and aid palatability so that low quality hay, corn cobs, straw, stover and other high cellulose roughages can be broken down to yield energy.

**PHOSPHORUS SUPPLEMENTS**—Grazing animals existing largely on pasture or roughages require supplemental phosphorus and trace minerals. A practical way of meeting these needs is to provide a trace mineral mix containing phosphorus. A high level of phosphorus is indicated since an animal needs 4-6 lb. of supplemental phosphorus a year and few mineral mixtures are consumed in amounts beyond 50 lb. per head annually.

**PIG STARTER PELLETS**—Young pigs require and respond to early nutrition. Because of digestive enzyme limitations, young pigs consume but little feed before four weeks of age, provided the sow has a good milk flow. Milk production in the sow reaches its peak about three weeks after farrowing and pig starter pellets provide an effective way of supplementing rather than replacing the sow. Except on specialized farms, a sow's time is worth more as a mother to pigs than in being conditioned for market or future breeding. By feeding the sow properly to prevent weight loss and insure maximum milk flow, large litters can be weaned at 50 lb. weight in eight weeks.

Most young pigs are anemic, especially when farrowed on concrete. Iron injection at birth followed by additional injections as needed is an effective and practical means of preventing anemia.

**AFMA NUTRITION COUNCIL**—The nutrition council of the American Feed Manufacturers Assn., started in 1941 with nine members, has grown to 87 members representing 74 feed manufacturers, 12 ingredient associations and 4 life members. Made up of the individuals responsible for feed formulation, quality control and biological research for member companies, the council has been effective in merchandising nutritional research through the feed industry.

A survey conducted in 1958 showed that the average nutrition council member attended two colleges, earned 2¼ academic degrees, spent more than six years in teaching and research and has more than 14½ years' experience in the feed industry.

Serving as a liaison between the research conducted at agricultural colleges and experiment stations, the council translates these findings into most usable form for all segments of the industry. By using what we know, the nutrition council aids in bringing the benefits of nutritional research to everyone.

## Nichols, Inc., Sells Properties in N. H.

EXETER, N.H. — G. E. Coleman, Jr., president of Nichols Inc., Exeter, has announced the sale of its Kingston, N.H., properties to Mrs. H. J. Ellis, Jr., Fremont, N.H., who will use the property as a housing development.

The sale of these properties is part of the company's long-term plan to distribute its production facilities close to the areas in which its products are being used. About 75% of the broiler industry grow-out operations are now south of the Mason-Dixon line, according to a Nichols report.

Most of the operations carried on at the Kingston plant will be transferred to Greensboro, Ga., where Nichols is planning "one of the most modern up-to-date breeding facilities in the world," officials said.


With a Fuller Airveyor Conveying System . . .

**Unloading 30 Tons of Feed Ingredients In Less Than One Hour Is a One Man Job at Ralston Purina**

A Fuller Telescopic Airveyor® pneumatic conveying system moves bulk animal and poultry feed ingredients from siding to storage at Ralston Purina's Harrisburg, Pa., mill. The operator keeps the Airveyor nozzle buried in the material by regulating the length of the hose—the telescopic Airveyor conveying system does the rest.

Soybean meal, midds, bran, and other ingredients are sucked vertically 165 feet up 12 stories to any one of 30 storage bins. As the operator works deeper into the car, he simply pushes a button to raise or lower the hose one foot or twenty to reach *any* point within the car. Work never stops to add or take off sections of hose.

Obtaining the savings inherent in bulk purchasing, eliminating the dust hazard, and greatly reducing handling costs are some of the ways Fuller Airveyor conveying systems cut operating expenses in the moving of dry, bulk materials.

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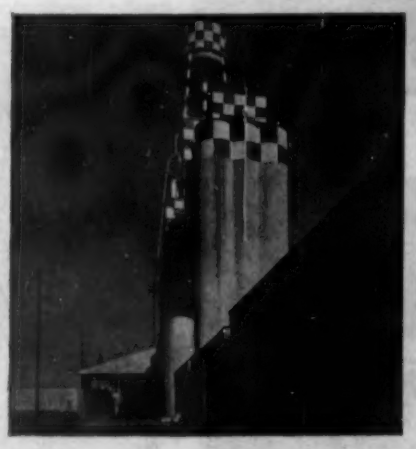
Operator controls unloading of feed ingredients at rate of 30 tons an hour — up 12 stories to storage, just by pushing a button.



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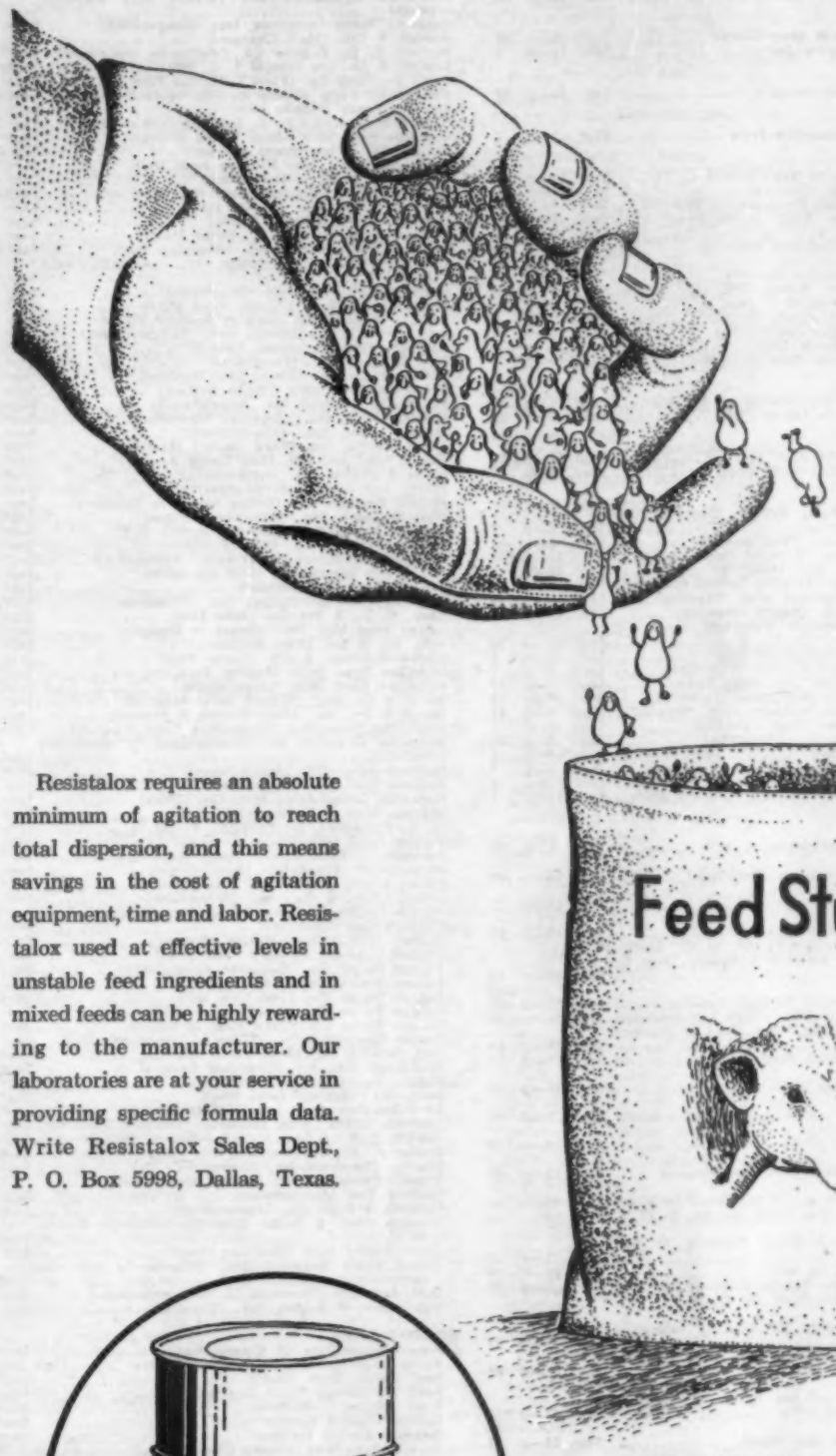


These jolly little fat molecules are important to feed formulation. And stability is probably the most important factor in determining the value of a fat for feed or alfalfa use. Rancidity, of course, is the deadly enemy of fat molecules and before you add animal fats to feeds, you want "insurance." This "insurance" is RESISTALOX, the new liquid antioxidant, that protects the fats used in feeds. Try RESISTALOX to make sure your feedstuffs will have longer storage life and other values.

Resistalox requires an absolute minimum of agitation to reach total dispersion, and this means savings in the cost of agitation equipment, time and labor. Resistalox used at effective levels in unstable feed ingredients and in mixed feeds can be highly rewarding to the manufacturer. Our laboratories are at your service in providing specific formula data. Write Resistalox Sales Dept., P. O. Box 5998, Dallas, Texas.

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*Remind him to order Morton T-M Salt. See page 101.*

FEEDSTUFFS
A WEEKLY NEWSPAPER
For the Feed Manufacturer, Feed Jobber, Feed Broker and Feed Dealer

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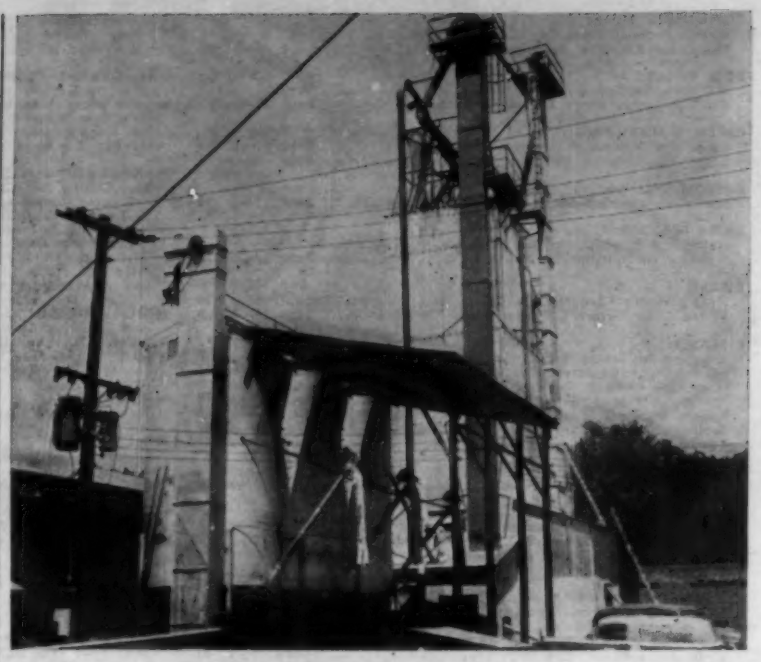


The new feed mill built by Priebe & Sons, Inc., at Clarksville, Ark. The plant will make approximately 80 tons of feed per 8-hour shift.

# Arkansas Poultry, Feed Firm Builds New Mill

By Jess Blair
Feedstuffs Special Writer

One of the many new feed mills in the South was recently completed at Clarksville, Ark. This one belongs to Priebe & Sons, Inc., hatchery owner, processor and broiler feeder.

"This completes the circle," said William (Bill) Wallace, production superintendent and a member of the board of directors. "We needed the feed mill for a number of reasons. First, we wanted to control the mixing here at home, including use of medication when and as needed. There will also be a reduction in shipping charges."

The firm formerly had a bulk feed station and ordered complete feeds. Now concentrates are shipped from the supplier company, and Priebe & Sons ships in corn to mix into the rations. The four main rations are a growing mash for broilers, a mash for breeder hens, and a starter and finisher feed for broilers. The firm will also be able to add minerals and other supplements.

Part of the push-button controls which enable one man to operate the machinery.

Priebe & Sons has usually had around 600,000 broilers on feed, and in addition has about 20,000 breeder hens. The broilers are grown by contract feeders, who have contracts similar to those found throughout the South. They receive a set price per bird, with a clause which provides bonus payment for good management. The company owns the birds and furnishes feed, medication, field supervision and does all hauling. The farmer constructs his own handling facilities and pays for utilities and litter.

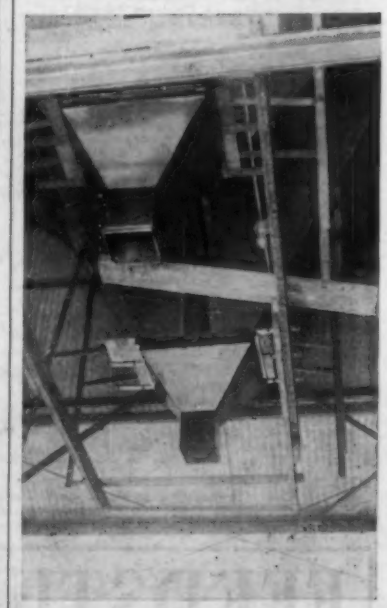
The new feed mill was built by the Delta Steel & Construction Co. of West Memphis, Ark.

Officials said the mill is of compact design to put out the maximum amount of feed for a minimum of labor. It is rated at 10 tons of mixed feed per hour or 80 tons for an eight-hour shift.

Loading the bulk trucks will also be much faster, as a six-ton truck can be filled in three minutes. Formerly with the bulk station, this required 25 minutes.

Storage for feed will be ample, because there is a rapid conversion of corn and concentrates once they are brought to the mill. The firm has three tanks of 40 tons each for holding corn, two 40-ton and four 20-ton Butler steel bins for storing ingredients. There are also eight bins for storing the completed feed.

Equipment includes a Jacobson 60-h.p. hammermill, a Fairbanks-Morse 2-ton hopper scale, and a Hayes &



Overhead bins from which finished feed will be loaded. Loading will be much faster than from the bulk station which the firm formerly had.

Stolz mixer. Later the firm plans to add a power shovel to be used in unloading corn.

The plant is so arranged that feed ingredients may be unloaded from trucks and railroad cars at the same time. In unloading from box cars, the corn or concentrates are dumped into a hopper and elevated into holding tanks or taken by horizontal screw conveyor at ground level to processing.

Concentrates brought in by truck may also be unloaded at this hopper or at another one closer to the mill. Feed can be moved into holding bins or directly to processing.

The hammermill is on the ground level floor, and from it the ground corn is blown up to the mill bins. As feed comes out of the mixer it is augered into the bins above the loading driveway.

"We hope the mill will solve some of our problems," said Mr. Wallace. "Those who stay in the broiler business must become more efficient."

He thinks that some operators will continue to drop out, but that the larger ones will continue to increase in every phase, from the hatching of eggs to selling the finished birds.

"Nobody can make an arbitrary prediction on what may happen," he said. "We do know that a modern feed mill is necessary, the owners must handle feed in bulk and reduce labor wherever possible. They must also get a low ratio of feed to meat, continue to educate the farm growers and cut wastage in every phase of the operations."

Some of these problems are expected to be partially solved by the new mill. Others, it was indicated, involve a management program that is never-ending.

## More Efficient Turkey Production Predicted

CROOKSTON, MINN. — Turkey breeding research now under way should result in more economical turkey production in the future, a University of Minnesota extension poultryman has reported.

Robert Berg told a Turkey Day audience at the university's Northwest experiment station that several commercial breeders are developing strains of small turkey hens which will be extremely good layers.

These strains, in turn, will be mated with toms from a heavy strain, to produce a good commercial cross. The aim, Mr. Berg said, is to get hens that average near 70% egg production during the laying period. Average now is between 50 and 55%.

Better egg laying would mean a big reduction in a turkey grower's production costs, just as bigger pig litters lower costs for the hog farmer, he commented.

It may take five years or more to complete this breeding research, said Mr. Berg, but he added that such work is one of the best answers to lower turkey prices and sliding profits for growers.

Mr. Berg also explained why there is frequently wide variation in turkey weights, particularly among birds of certain breeds. The variation is due to the complexities of the breeding process, he said. Inherited characteristics in birds are carried by genes, some of which are dominant, and some of which are not.

For a single characteristic with two genes involved, Mr. Berg said it is possible to get nine different kinds of offspring from a single mating. This means it takes several years of breeding to separate the birds with the exact characteristics the breeder is looking for.

Also, said Mr. Berg, important as breeding is, final results depend on feeding, managing and disease prevention. "If a turkey tom has the ability to gain 1 lb. a week, but is only fed to gain ¾ lb., that's all he will do," he said.

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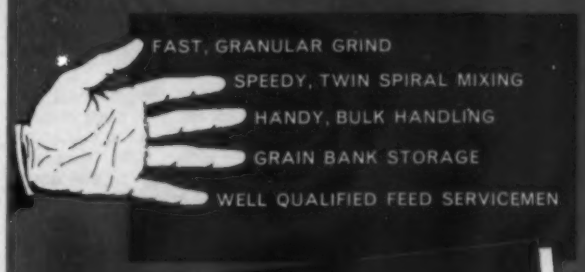

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# Spreader Developed for Moving Liquid Manure from Pig Parlors

By Special Correspondent

Feed manufacturers involved in swine feeding programs may find it to their advantage to adopt a manure handling idea used in connection with pig parlors on a farm near McDonough, Ga.

Liquid manure, containing up to 75% solids and collected in confinement feeding area holding tanks, is spread with a trailer-mounted 500-gal. tank, equipped with a weatherproof gas engine and pump. Air pressure produced by the pump creates a vacuum which draws the manure into the tank and also discharges the manure through a spreader attachment while in operation out in the field.

**IN THE FIELD—Shown here is the liquid manure spreader in operation. The machine was developed by a mechanical engineer working with Ralph Hinton, Southern Breeders, Inc., production manager.**

The liquid manure spreader is in use on the Southern Breeders, Inc., farm near McDonough. It was developed by a mechanical engineer working with Ralph Hinton, production manager for Southern Breeders, which breeds certified meat-type breeding stock and distributes hog production equipment.

Much of the manure spreader distribution is through Ralston Purina Co. dealers, but they do not have an exclusive franchise. Southern Breeders is a Ralston Purina feed customer, buying from a McDonough dealer, Walker McGarity. Southern Breeders sells breeding stock to Purina dealers as well as other customers.

Experience in the use of the liquid manure spreader has pointed out these advantages:

- The tank can be filled in five minutes, using a quick-coupling 12-ft. flexible hose.
- The quick-coupling spreader attachment discharges both liquids and solids under pressure, so that a 20-ft.-wide area can be covered in one trip down the field.
- Holding manure in liquid form reduces the special fly problem encountered in confiement rearing of hogs.
- The liquid manure spreader even handles the bedding from the farrowing house and growing pens. Mr. Hinton said he prefers using decomposed sawdust over shavings as bedding, but noted that the machine will handle either.
- There's no waste in manure except for what little ammonia escapes into the air and any lost after the manure is spread in the field.
- An automatic shut-off valve stops the pump when it is filled.
- The tractor driver can spread the load without leaving his tractor seat and can adjust the flow of the liquid manure by manipulating a lever near the front of the tank.

The costs of manure disposal using the liquid spreader depend greatly on the length of the haul from the disposal pits to the field. And apparently there's no way to cut down the hauling time when the distance is great. A pipeline could be installed, but this is considered impractical.

**LIQUID MANURE SPREADER—Liquid manure is pumped from holding tank between two pig parlors at Southern Breeders, Inc., farm into liquid manure spreader's 500 gal. tank. By reversing valves, the same engine and pump builds up pressure inside the tank to spread the manure on crop land. The machine is equipped with quick-coupling 12-ft. flexible hose for loading and spreader attachment.**

Mr. Hinton said Southern Breeders could not handle the manure from their hog operation without the spreader.

He values the manure at $1 hog. When interviewed recently, he had not yet had a chemical analysis run on the manure. but said he hoped to do so soon.

The necessary frequency of emptying liquid manure storage tanks on the Southern Breeders farm depends partly on the weather. The tanks are big enough to hold a week's production of manure. The supply is estimated as 3 gal. per adult animal (in the confinement growing pens) per day. Normally, however, the manure is spread every three to five days. Mr. Hinton said the storage unit at the farrowing house can go unemptied for as long as two weeks. But seldom is this the case. An exception may become necessary when prolonged wet weather keeps the tractor-pulled spreader out of the field.

Southern Breeders applies its liquid manure on bottomland, where most of the corn fed is grown. Mr. Hinton said the manure also may be applied to small grain or pasture land, but, keeping good swine sanitation practices in mind, he pointed out that Southern Breeders does not spread the liquid manure on any field where hogs may be placed within three years.

## Joins Nutrena Sales

ALBERT LEA, MINN. — Duane Woodward, manager of the Albert Lea Co-op Creamery Assn. store, has been named Nutrena Feeds territory sales manager at Albert Lea. His new job will be to supervise sales in a seven-county, south-central Minnesota area. The counties are Blue Earth, Faribault, Freeborn, Martin, Steele, Waseca and Watonwan. His appointment was announced by O. S. Sonstegard, Nutrena district sales manager at St. Paul.

Mr. Woodward was formerly a vocational agriculture teacher at Jeffers, Goodhue and Ellendale, Minn. He is a 1955 graduate of North Dakota Agricultural College.


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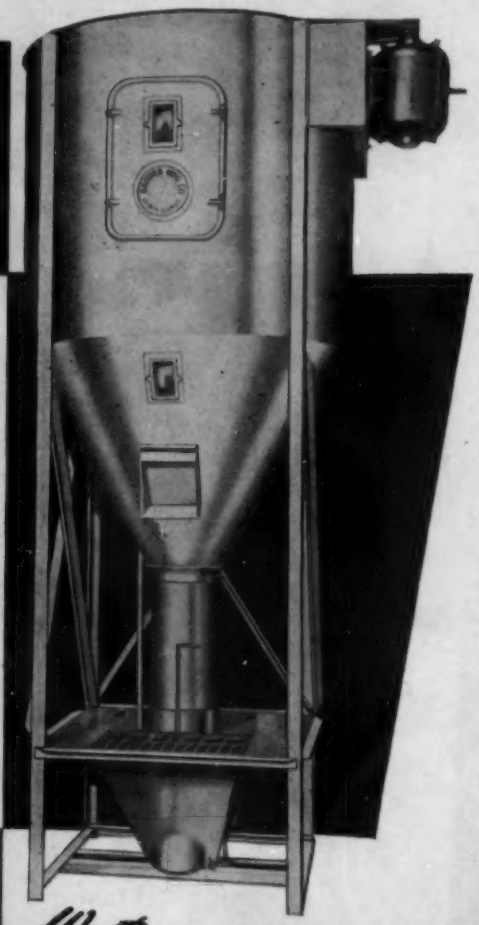

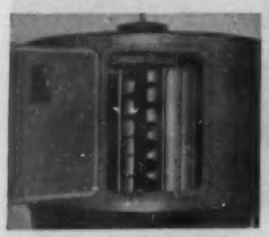

It's easy to get inside through large hinged service door and hinged conveyor sleeve.

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Easy inspection of feed being mixed is obtained through glass observation window at eye level.

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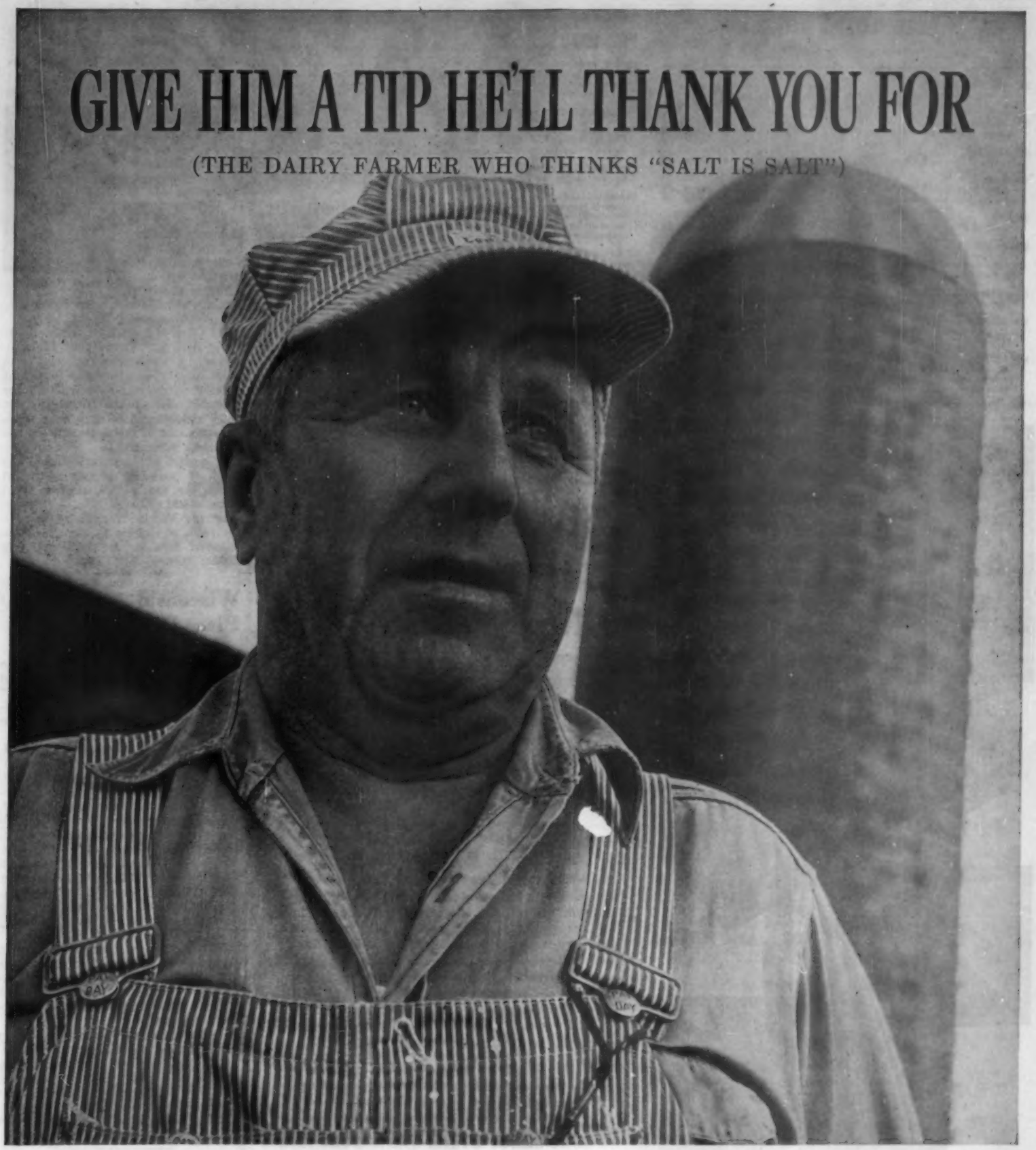

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# MORTON TRACE-MINERALIZED SALT

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## Appointed Manager Of Swift Feed Mill

MEMPHIS — Clyde O. Greer has been appointed manager of the Swift & Co. feed mill here, according to an announcement by W. J. Chapin, manager of the company's General Feed department in Chicago.

Clyde O. Greer

He succeeds H. H. Wedeman, who has served as Memphis manager for the past four years, and has been appointed manager of Swift's Texas Feed district with headquarters at Brownwood, Texas.

Mr. Greer has been with Swift since 1948, in Texas and Chicago, serving in various managerial and sales capacities. He was assistant district manager at Fort Worth, later managed one of the Texas district mills and since 1956 has been poultry specialist in the General Feed department, Chicago.

A native of Haynesville, La., he received public school education there. He has a B.S. degree from Texas A&M College.

During World War II he rose to the rank of captain in the army. He received five battle stars and the bronze star.

## Wisconsin Association Plans District Meetings

MILWAUKEE, WIS. — "Credit—Boom or Bust!" and a report on the latest in feed and fertilizer control news will be discussed in a series of five Wisconsin meetings of the Central Retail Feed Assn., according to a recent announcement.

The following meetings are scheduled: Hotel Eau Claire (Wisconsin), Oct. 26, Donald F. Crane, E. J. Crane & Sons, Chippewa Falls, chairman; Elks Club, Wausau, Oct. 27, David M. Humphrey, Northern Milling Co., Wausau, chairman; Beaumont Hotel, Green Bay, Oct. 28, T. A. Strid, Strid Grain Co., Green Bay, chairman; Elks Club, Janesville, Oct. 29, Irene Wonn, Farley Feed Co., Janesville, and Elks Club, Fond du Lac, Oct. 30, Gerald Stutz, National Food Co., Fond du Lac, chairman.

William Breese, associate chairman of the department of commerce of the University of Wisconsin extension division, will discuss "Credit—Boom or Bust!" He will outline a plan to handle retail credit.

Other speakers will include Walter B. Griem, who will report on the latest in feed and fertilizer control news, and E. H. Sather, Blue Ribbon Feed Co., New Richmond, president of the Central Retail Feed Assn.

The meetings will all start with dinner at 6:30 p.m.

## Quality Control Post

VICKSBURG, MISS. — Al M. Horton, Hollybluff, Miss., has joined Valley Mills, Vicksburg, in charge of Grade A Feeds quality control.

Mr. Horton received his B.S. and M.S. degrees from Mississippi State University where he majored in poultry science and nutrition.


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*CONSULTANT*
*Feed Formulation and Research*
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Kraco Dried Whey, KAFF-A Milk Replacer, PEX Whey Products for poultry.

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Granular, free-flowing, non-caking. Produced in their new Grand River Chemical Division plant at Pryor, Oklahoma.

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From all parts of the world. We recommend South African Pilchard Fullmeal (solubles added back), and HI-SEAS Menhaden Wholemeal because of their fine quality and very high protein digestibility.

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and your other needs

FULL LINE—We operate our own fleet of new Mack Diesel trucks and are merchandisers and importers of a full line of feed ingredients: Soybean Meal—Cottonseed Meal—Linseed Meal—Peanut Meal—Dehydrated and Suncured Alfalfa Meals—Wheat Millfeeds—Hominy Feed—Rice Bran—Oat Products—Brewers' Grains—Distillers' Grains and Solubles—Beet Pulp—Dog Food Ingredients—and FISH MEAL FROM ALL OVER THE WORLD.

EXPERIENCED STAFF—J. Paul Smith, George Thomas Smith, C. Edward Smith, Earl Cox, traders; Bill Byas trader and General Traffic Manager; Jay D. Smith, trader and Truck Traffic Manager. We are well staffed to promptly and efficiently service our clients' complete feed ingredient needs.

"ON TIME" DELIVERY—Direct market wires keep us constantly in touch with principal commodity exchanges.
By operating our own trucks, we offer "on time" delivery in convenient quantities, both straight and mixed truckloads of DIKAL and Fish Meal, Urea and Whey, and other combinations—LCL shipments at less than carload prices.

CONVENIENT LOCATION—Office and warehouse in Fort Worth. Warehouse stocks of Whey, Urea, Fish Meal, and other feed ingredients are maintained at all times.

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**"Fines are down 38%!"**

**"Customers tell me Paco pellets taste better."**

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**"Production is up a healthy 6%."**

**"Nobody told me it was the only binder on the market that was nutritious, too . . . but it sure is."**

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Without obligation send the following customer folders:

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**SHIPMENTS FROM PHILADELPHIA, PA. AND GRETNA, LA.**

## Better Distribution of Food Seen as Need

WASHINGTON — Persons attending the recent annual meeting of the Agricultural Research Institute here were told that underdeveloped nations are far more interested in adequate food supplies and comfortable homes than they are in U.S. missile sites. The speaker was Hugh Dermody, assistant general manager, Chas. Pfizer & Co.'s agricultural division.

"None of us resent people living under Communism getting adequate supplies of food and fiber," Mr. Dermody said. However, he pointed out, the increased farm productivity of such nations is being used to widen Communistic influence within the free world.

"The one great plus on the side of the U.S. that not even Khrushchev denies," Mr. Dermody continued, "is the still far superior know-how and productivity of American agriculture. But we cannot be contented with our current undisputed leadership. Distribution of our agricultural products, for example, has not kept pace with scientific advances in production."

Our best solution to the problem, Mr. Dermody believes, is to train more young people who will be dedicated to making our farm productivity and farming know-how available throughout the world. Right now, he said, we have twice as many agricultural career opportunities opening up every year as there are qualified candidates to fill them.

## Anderson Establishes Warehouse at Fresno

CLEVELAND, OHIO — A warehouse for supplying expeller parts to west coast oil seed millers has been established at Fresno, Cal., by the V. D. Anderson Co., division of International Basic Economy Corp., Cleveland, Ohio.

H. Howard Hansen, associated with the Anderson organization for 14 years, is manager of the Fresno depot.

An announcement from the company said an ample stock of Anderson replacement parts is carried on hand so that all wearing parts of expellers operating in Pacific coast states can be delivered quickly.

**AT TEXAS CONFERENCE**—Here are some of the feed men on hand for the recent Nutrition Conference at Texas A&M College, College Station. Left to right in the first picture are Eugene Rozacky, H. A. Conrads and Elton Erben, all of H. Dittlinger Roller Mills, New Braunfels, Texas. In the second photo are W. E. Notley and Ben S. Hilburn, Armo Mills, Lockhart, Texas. In the third picture are Robert Carter, J. D. Hudgins Co., Hungerford, Texas; Glen Naylor, REFCO Corp., Refugio, Texas, and Dr. K. B. Kerr, Dr. Salsbury's Laboratories, Charles City, Iowa, one of the conference speakers.

**GIVE HIM A TIP HE'LL THANK YOU FOR**

*Remind him to order Morton T-M Salt. See page 101.*



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## Receiving Leg and Dump with Cross Conveyor

- Smooth-running legs
- High capacity
- Truck lift and all accessories furnished
- Self-supporting conveyor with catwalk and handrail

**Forster engineering and installation**

**Complete turn-key job, if desired, by skilled crews**

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CITY ..... STATE .....

## New Ohio Feed Mill Goes Into Production

FOSTORIA, OHIO—The $500,000 feed mill built by the Ohio Farmers Grain & Supply Assn. has gone into production at Fostoria.

Engineered and designed by Sprout, Waldron & Co., Inc., Muncy, Pa., it was installed under the supervision of Lewis J. Sawyer, service engineer. The mill will supply mixed feeds for 90 elevators in 35 counties in northwestern and central Ohio, and to 250 dealers associated in the enterprise.

The association was organized in 1929, and is affiliated with the Ohio Farmers Grain Corp. Stanley Salisbury is general manager.

The Pneu-Vac system of unloading cars and trucks brings the grains into the mill where it passes over two magnets to remove any metal that may be in the grain. It then passes over a scalper where nonmetallic objects such as strings, cords, paper and cloth are removed.

It then is weighed on automatic scales and the net weight recorded before being elevated over the top of the 86-ft. building and dropped through distributing tubes into 16 large bins, four for grains and 12 for other ingredients.

Grinding is by a 100-h.p. hammer mill for corn, and a roller for crimping oats. The grains then enter the proper bin for blending into the various feeds.

One man at the automatic electric console panel blends all feeds and keeps the batches separate in two-ton lots.

Each ingredient is weighed separately and then dumped into the hopper before entering the two-ton horizontal mixer. The mixer has a capacity of 20 tons an hour, making it practically a continuous operation.

Any trouble or breakdown shows up immediately on the panel, and the location of the trouble is shown by lights.

From the mixer the mixed feed goes to the bulk bin, pellet bin or bagging room.

The tanks have a capacity of 800 tons of raw ingredients, and all are rodent-proof.

## Iowa Sheep Day Plans Are Set for Nov. 10

AMES, IOWA—A report on findings in sheep feeding and management in the Wisconsin research and demonstration work at Spooner, Wis., will be presented by Dr. A. L. Pope, University of Wisconsin, at the annual All-Iowa Sheep Day at Iowa State University Nov. 10.

Tom Wickersham, Iowa animal husbandman, announced recently that the program will also include discussions of breeding principles, management and feeding research results for the past three years at the university farm near Beaconsfield. The researchers will also discuss sheep diseases and their control.

M. L. Buchanan, North Dakota State College, will speak on the problems and future of the sheep industry in the Midwest.

## McMillen Names Feed Territory Managers

FORT WAYNE, IND.—Seven promotions in the southern region were announced recently by the feed sales division of McMillen Feed Mills, Fort Wayne.

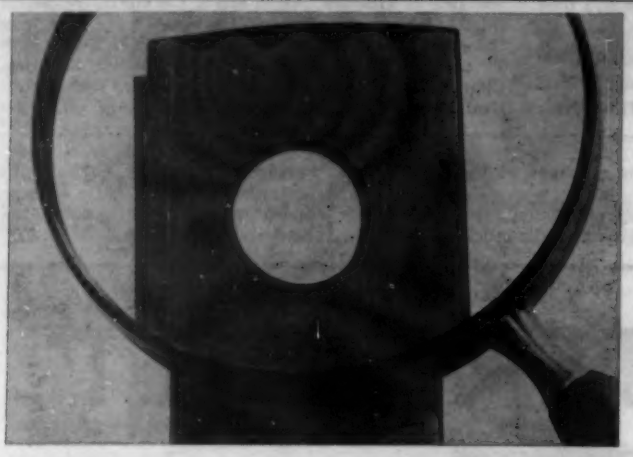
Joseph E. Jackson, who joined the company in 1956 after graduation from Clemson College, was promoted from assistant territory manager to territory manager in east central Georgia.

In the south central region, Burl Boyd was promoted from assistant territory manager to territory manager in the southwest quarter of Alabama and part of Florida. He is a graduate of the University of Arkansas.

F. G. "Gay" Webster was named territory manager of east central Alabama following his promotion from assistant territory manager. He graduated from University of Georgia with a major in poultry and dairy.

Also in the south central region is Harold Wright, who was named territory manager of eastern Kentucky. He has been working as an assistant territory manager. Mr. Wright joined McMillen Feed Mills in 1956, after attending Tennessee Polytechnic Institute.

New southwestern region territory managers are Tom Bradley, Cecil McLaughlin and R. "Dick" Stanford. Mr. Bradley joined the company in 1958 and has been an assistant territory manager. Mr. McLaughlin is a University of Tennessee graduate, joined McMillen Feed Mills in 1956 and was an assistant territory manager in the south central and southwestern districts. Mr. Stanford joined the feed sales division in 1956 and has worked primarily in the southeastern sales district. He graduated from the University of Georgia in 1953 with a B.S. degree in animal husbandry.

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**ONLY 2 GALLONS of TETRASPOT** *will completely fumigate* 1000 *bushels. And it takes fewer gallons to fumigate with TETRASPOT than with ordinary fumigant, saves you time too. That's because with TETRASPOT you fumigate only the area that's infested, not the entire grain mass as with an ordinary fumigant.*

**FOR SPOT TREATING pour TETRASPOT** in a circle around the infestation about 6 to 8 feet from the edge. This ring of fumigant walls off the infested spot and drives the bugs into the center. After 3 or 4 hours dose the center of the spot.

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**WHIRLAWAY AIRBLAST CAR LOADERS,** cast iron pulleys, new and used feed and elevator equipment. Hagan Mill Machinery, P. O. Box 574, Jefferson City, Mo.

**CHAMPION MOBILE GRINDER AND** mixer units. Champion Portable Mill Co., 2105 Como Ave. S.E., Minneapolis 14, Minn.

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E. H. Beer & Co., Inc. Ibsen Ave. & Newkirk St. Balto. 24, Md.

# Montana Reports Research on Additives, Pelleting for Cattle

By DR. O. O. THOMAS
Montana State College

BOZEMAN, MONT. — Despite a snowstorm 70 cattlemen turned out for the fourth annual cattle feeders day here recently at Montana State College. Fifty county agents, attending the conference, previewed the feeding trials the previous day. Results of wintering, grazing and fattening trials were presented by the animal industry staff.

**A tranquilizer, dynafac, bacitracin and phosphorus** were used in a wintering test involving 480 weaned Hereford heifers at the Climbing Arrow Ranch. During the 141-day test, there was little difference in gain due to treatment, with about all heifers gaining 1.2 lb. per day. The grain ration was increased for the last 42 days, and in this period it appeared that the tranquilizer depressed gains slightly. Heifers fed tranquilizer (Tran-Q) plus ⅛ gram dynafac gained the most. The lot of heifers fed bacitracin at 70 mg. per day gained more than the heifers on the other test.

**Four levels of dynafac—0, ½, 1 or 2 grams—and two levels of fat** were fed to 800 weaned Hereford steer calves at the Climbing Arrow Ranch. Another lot of 100 calves received no fat or dynafac. All steers were fed 10 mg. of stilbestrol. These additives were a part of a grain pellet fed at 1 lb. per day. Calves were fed chopped alfalfa hay and 1 lb. of barley the first 84 days and the barley was increased during the last 42 days. There was no consistent difference in gains due to treatment for the entire 126 days, except that fat tended to decrease gains slightly. This depression was more apparent during the last 42 days. During this period, steers fed ⅛ gram dynafac plus 2.5% fat made the greatest gain.

**Two new products, diallylstilbestrol and diallylhexesterol,** were evaluated in comparison with a control and stilbestrol. One hundred heifers and 100 steers were used in this trial with 10 steers and 10 heifers per treatment. Heifers fed 20 mg. of diallylstilbestrol gained 2.1 lb. per day over a 135-day feeding period as compared to 2.0 lb. for stilbestrol-fed heifers and 1.9 lb. for control heifers. The trial with steers was incomplete; however, to date, steers fed 25 mg. diallylstilbestrol had gained 2.8 lb. per day compared to 2.7 lb. for stilbestrol-fed steers and 2.68 lb. for the control steers.

Heifers fed 20 mg. diallylhexesterol gained 2.4 lb. during the trial and heifers fed 10 mg. stilbestrol gained 2.1 lb. and control heifers 2.17 lb. Control heifers graded lower in both tests than did other heifers. Preliminary data with steers fed diallylhexesterol showed that steers fed 20 mg. diallylhexesterol gained 2.74 lb. as compared to 2.71 lb. for steers fed 10 mg. stilbestrol and 2.7 lb. for control steers. Final weights for heifers were on a shrunk basis, whereas steers were not shrunk when weights used for the report were obtained.

**Agrozyme was fed to steers** receiving a high-barley ration. Agrozyme was fed at a rate of 0, .0025, .00375, and .0075 lb. per day. Average weight gains of steers after a 162-day feeding period was best for steers fed the middle level of Agrozyme. These steers gained 2.74 lb. per day compared to 2.58 lb. for the control steers.

**A tranquilizer implant—trifluomeprazine—**was used in steers grazed on native range or on irrigated pasture. The response to the implant was greater for steers self-fed grain on irrigated pasture than for steers grazed on native range.

**Completely pelleted rations** were fed to six lots of cattle. Three lots of yearling Hereford steers were fed a pellet with 70% alfalfa and three lots were fed a pellet with 30% alfalfa. The alfalfa portion was composed of one half suncured alfalfa and one half dehydrated alfalfa pellets which were reground, mixed with barley, beetpulp, molasses and repelleted into ⅝ in. pellets. Dynafac was added at the rate of 300 grams per ton to pellets fed two lots of steers. One lot of steers fed each type of pellet had access to straw.

As in last year's test, these steers gained about 0.25 lb. more per day from having eaten about 2 lb. of straw in addition to the pelleted ration. After 112 days, steers fed the 70% roughage pellet gained 3.11 lb. per day compared to 3.37 lb. for the 30% roughage pellet; steers fed the same pellets without straw gained 2.93 and 3.02 lb., respectively. Dynafac-fed steers gained slightly less than control steers according to the preliminary data. In the test last year, dynafac increased gains over steers fed pellets plus straw. A lack of pen space made it impossible to test the dynafac plus straw combination this year. Steers will be marketed in November.

### Field Day on Research Ranch

On Oct. 12, the first field day was held at the Montana Agricultural Experiment Station Red Bluff Research Ranch. The ranch, obtained in 1956, comprises more than 13,000 acres of foothill-mountain range and is located 34 miles southeast of Bozeman. Experimental work is conducted at the ranch with more than 1,600 ewes and 11 Hereford cows. In addition, considerable range research is underway.

About 125 ranchers were present at the field day to hear results of tests conducted at the ranch, to see facilities and to enjoy a free barbeque put on by the Montana Stock Growers Assn. and the Montana Woolgrowers Assn.

**Ewe lambs were wintered on four planes of nutrition** from Oct. 2, 1958, to April 21, 1959. Lambs started at 78 lb. on the experiment. During each half of the winter, lambs were either wintered at a high or a low level of nutrition. The high wintered lambs weighed 107 lb. in April compared to 76 lb. for the low wintered lambs. This difference in winter gain was less after lambs had grazed together in the summer.

**Results of several years work with wintering ewes** was presented. About 600 ewes in these experiments were grazed together on winter range and cut out for supplemental feeding each morning. In general, body weights of ewes increased and more pounds of lamb were produced when supplemental feed was given. New management methods involve feeding supplements according to the condition of the ewe, the range and the weather.

Hereford cows have been used in an experiment to determine the **value of protein and phosphorus in winter supplements.** These 80 cows, grazed together on winter foothill range, were individually fed every other day a supplemental pellet varying in percent protein or phosphorus. Cows fed additional phosphorus in the winter supplement weaned heavier calves in the two years the experiment has been conducted.

Esophageal fistulated ewes and cows are being used to **determine the quality of forage ingested.** Chemical composition and digestibility of range forage are being determined so that the total nutrient intake from the range can be derived. Such information is valuable in formulating supplements for range livestock.

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*Remind him to order Morton T-M Salt. See page 101.*

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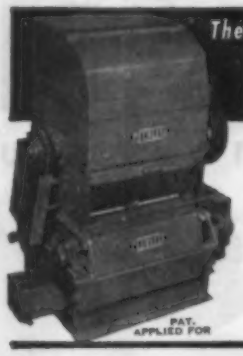

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1316-C Sherman Ave. Evanston, Ill.

# Neppco Speaker Says Started Pullets Will Stimulate Profits

HARRISBURG, PA.—The question "Do started pullets stimulate profits?" was answered with a "yes" by Harry C. Wheldon, Jr., University of Maine poultry specialist, at the recent exposition staged here by the Northeastern Poultry Producers Council. He said started pullets will stimulate profits because "the whole question has caused poultrymen to figure his cost of producing pullets." (Another story on the Neppco exposition appears on page 56 of this issue.)

He explained his yes answer with these points:

- Figuring his cost of producing pullets stimulates profits for the poultryman because it points out the weaknesses in his program.
- Some poultrymen will realize that someone else can grow a better pullet than he can.
- Figuring costs will cause some poultrymen to take a look at where his labor is going and therefore put it where it will give him his greatest return.
- Cost accounting will cause some poultrymen to take a look at how they are using their square footage of floor space and what returns it is producing.

Mr. Wheldon concluded, "Started pullets are here to stay and, as with any business, that means there will be a profit."

### Turkey Production

In other talks during the Oct. 6-8 Neppco exposition, Prof. Robert M. Grover, University of Massachusetts department of poultry husbandry, presented observations on keeping turkey production costs competitive, and Walter Schwedler, president, National Turkey Federation, commented on the task of increasing per capita consumption of turkey meat.

Prof. Grover said the crux of the problem in keeping turkey production costs competitive is "having the foresight, the determination and the facilities for marketing birds at the optimum age and stage of development."

In this respect, he said, these possibilities are open to growers:

- Adequate planning can shorten the time between the brooder and marketing and it can help the grower do a better job of scheduling that time.
- Advantages of hormonizing are attracting considerable attention.
- There is need for processing facilities standing ready to dress turkeys at the state of development which will bring optimum returns to the grower.

Mr. Schwedler said there is much work to be done in getting the housewife to serve turkey regularly. "Broilers and turkeys have doubled their consumption in the past 10 years," he said, "but are only 15% of the total meat consumed per capita." Mr. Schwedler added, "Turkey production . . . is not too large. We are just not getting our product consumed. Six-pound per capita consumption on turkeys that sell at 39¢ lb. against beef that sells for 79¢ lb. and enjoys 82-lb. per capita consumption is certainly not in proper proportion."

The job ahead, he said is moving per capita consumption on turkeys up to 10 lb.

To promote more regular use of turkey, Mr. Schwedler noted that: Convenience packages are finding their way into markets; portion control for institutional users is moving along with turkey logs or rolls and turkey steaks, and foreign markets are expanding.

### Results of Contests

Top honors in the Neppco Egg-to-Chick Show at the three-day exposition went to Babcock Hatchery, Litiz, Pa., in the egg division, and Florin Farms, Inc., Mount Joy, Pa., in the meat division.

In the white egg classification, Babcock's first place entry was closely followed by George M. Anthony & Sons, Strausstown, Pa., with third place honors going to Burling's Hatchery, Oxford, Pa.

In the brown egg class, top honors went to C. Nelson Hardy & Son, Essex, Mass., followed by Hubbard Farms, Inc., Lancaster, Pa., and another entry from Hardy.

Pennsylvania Farm Bureau Hatchery, Harrisburg, was runner-up in the meat division, while Moore Farms, Inc., Lancaster, ranked third.

Results of an egg quality test announced at the exposition showed that 66 out of 90 dozen-egg entries from 14 northeastern firms scored over 95 points (out of a possible 100). Fifty-eight of the entries rated scores of more than 98 points. Entries came from all sections of the Northeast, and were judged on interior and exterior quality.

## Proposes More Beef In Mississippi Valley

MEMPHIS, TENN.—Dr. Peter Hogg voiced a plea for increased production of livestock in the Mississippi Valley while speaking before the Memphis Agricultural Club at the Hotel Chisca recently. Dr. Hogg is assistant director in charge of the delta branch of Mississippi Experiment Stations in Stoneville, Miss.

He said beef is still in demand and the climate of the Mid-South area, with long growing seasons, lots of water and high fertility, would insure success of beef operations handled intelligently.

"Many people think chicken is less expensive than beef as a home meal," he said. "But, if you will figure the calorie contents of the two kinds of meat, you'll see that a pound of sirloin has calories totaling the equivalent of $2 worth of chicken."

The speaker said he was not advocating beef instead of cotton for the Mid-South. Instead, he wanted farmers to realize that cattle production provides a second crop, giving greater security to the region's agriculture.


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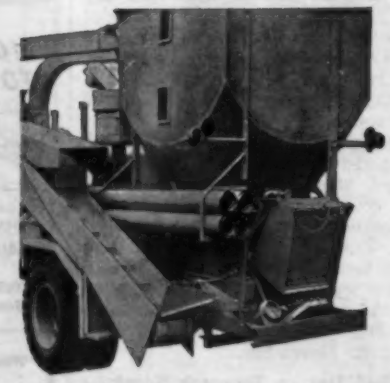

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## MICHIGAN

(Continued from page 1)

378 Indiana dealers using the grain bank, 76% restrict the size of deliveries of corn, 56% restrict total corn stored by each farmer and 65% keep an inventory of corn on hand to meet grain bank obligations.

"It appears," said Dr. Farris, "that dealers make an effort to restrict the rate at which farmers bring corn to them for storage, probably because of limited storage facilities and at the same time they generally feel their obligation to keep enough corn on hand to take care of current obligations under their grain bank agreements."

Of the dealers who did not try to keep an inventory of corn equal to grain bank obligations, the majority relied upon local purchases of corn to fill these needs. Even though the storage problem seems to be an important one, the survey showed that only 22% of the dealers reporting a grain bank operation made a direct charge for storage.

**2. What are the important problems connected with receiving grain from farmers in grain bank arrangements?**

The most popular method of crediting the farmer with grain deposited in the bank appeared to be that of giving him credit in terms of pounds of corn. About three fourths of the dealers made a moisture adjustment for corn received in the grain bank. Nearly half of these made adjustments for quality other than moisture and about a third made an additional adjustment for shrink. Only a very small percentage of dealers reported that they credited the farmer for his corn on a dollar basis. About a third of the dealers with grain banks reported having grain driers for handling high-moisture corn.

**3. What specific agreements are used in grain bank operations?**

The grain bank operator's understanding with the feeder, whether written or unwritten, usually involves: (1) Rate for converting ear corn to shelled corn, (2) moisture adjustment schedule, (3) adjustment for shrink and other quality adjustments, (4) policy on overdrawing the corn account and (5) charges made for services in connection with the grain bank.

**4. How do dealers charge for services they render under grain bank operations?**

**Storage:** It appears from the survey returns that the majority of dealers make no direct charge for storage. Those reporting storage charges indicated that the most common was 1½¢ bu. per month.

**Drying:** Charges of 5¢ and 10¢ bu. for drying were the most common. The range of charges reported was 4@12¢ bu.

**Shelling:** Shelling charges ranged from 2¢ bu. to 20¢ bu., with the most common charges being 2, 3, 4 and 5¢ bu.

**Grinding and mixing:** Most common charges: 10¢ cwt., 12¢ cwt. and 15¢ cwt.

**Hauling:** Usual charge for hauling farmers' corn to the elevator was 5¢ bu.

**Delivery:** Charges for delivery of mixed feed varied considerably, but the most common charge was $2 ton.

**DIRECT SELLING**—The trend toward direct selling of feeds—from the manufacturer to the feeder—was described by J. M. Gwin, manager, poultry research division, Ralston Purina Co., as the "No. 1 problem of feed dealers" in some areas of the country. "There are localities where feed manufacturers have taken over the retailing function, and the feed dealer has all but vanished from the scene," he said. "Some feed com-

(Turn to MICHIGAN, page 114)

## EXPANSION

(Continued from page 8)

field of business publications. He is a former vice president in charge of advertising sales for the Clissold Publishing Co., Chicago. He had additional publishing experience with Triangle Publishing Co. and the American Medical Assn.

**Minneapolis**

Regional representative for Feedstuffs and Croplife in the Minneapolis home office is Paul A. Anderson. He is also national advertising manager for Farm Store Merchandising.

**New Publication**

Publishers representatives in New York and Chicago have also been named for Professional Nursing Home, a new monthly magazine for administrators of nursing homes and homes for the aging. Austin LeStrange Co., Inc., New York, will represent the magazine in the East. In the Midwest, LeStrange Co., Inc., Chicago, will handle advertising sales for Professional Nursing Home.

Upper Midwest advertising sales for Professional Nursing Home will be handled by Jack Mertes, national advertising sales manager, from the firm's home office in Minneapolis.

## CHEMELL

(Continued from page 1)

for the amount of the mortgages. Meanwhile, it was learned that other banks are attempting to sell the birds for whatever they will bring—in many cases for less than the amount loaned on the flocks.

One banker said this action is a result of banks having to pay cash for feed to maintain the flocks, and that, he said, "is throwing good money after bad." He added there was little indication on the part of feed companies to extend the banks any credit for supplies.

With the tangible assets dwindling fast, the trustees are faced with the problem of priority of debtors' claims, on which no official ruling has been made.

One feed company, holding debtors' certificates for approximately $800,000, which were issued while the proposed re-organization of the corporation was pending, traded them for an equity in unmortgaged chickens hatched during that period.

**Pullet Chick Hatching**

Adding to the confusion are some 10,000 pullet chicks being hatched each week by Chemell, Inc. With no personnel to move these chicks into commercial egg flocks as potential replacements, they are rapidly becoming additional liabilities. There has been no indication anyone will extend credit for feed for these chicks.

Of the many complexities involved, one that has continually cropped up, according to one of the attorneys for the creditors, is ownership—or at least control—of baby chicks which have been and are being hatched from flocks which are mortgaged.

With no cash available, and little indication that feed can be secured on credit, these chicks are becoming more of a liability than a potential source of income for the insolvent corporations.

## E. C. DREYER

(Continued from page 1)

the Dreyer Commission Co. maintained offices in Kansas City, where Mr. Dreyer's sons, Charles and Stanley, were in charge of operations. The Kansas City office was closed a few years ago when Charles and Stanley Dreyer entered the commercial warehouse business.

## FEED CONTROL

(Continued from page 4)

**VITAMINS**

The word "feeding" was dropped from the following definitions on page 55 so as to read:

**No. 210.** Vitamin A oil
**No. 212.** Vitamin D Oil
**No. 213** Vitamin A&D Oil

That part of Resolution A(b) under Vitamins, line 3, page 58, reading "vitamin E activity in International Units," was amended to read:

Vitamin E in International Units or as the vitamin part of vitamin E active compounds in milligrams per pound.

Definition F-5 under Vitamins, page 56, was made tentative after being amended as follows:

**Vitamin A Supplement** is a feeding material used for its vitamin A content. It shall contain a minimum of two million USP Units of vitamin A per pound. The label shall bear a statement of the source of vitamin A and a minimum guarantee of USP Units of vitamin A per pound with additional permissive USP Units of vitamin A per gram. (Suggested 1956, Proposed 1959.)

**WHEAT PRODUCTS**

The following definitions were adopted as tentative:

**Wheat Mill Run** consists of coarse wheat bran, fine particles of wheat bran, wheat shorts, wheat germ, wheat flour and the offal from the "tail of the mill." This product shall be obtained in the usual process of commercial milling and shall contain not more than 9.5% of crude fiber. (Proposed 1959.)

**Wheat Middlings** consists of fine particles of wheat bran, wheat shorts, wheat germ, wheat flour, and some of the offal from the "tail of the mill." This product shall be obtained in the usual process of commercial milling and shall contain not more than 9.5% of crude fiber. (Proposed 1959.)

**Wheat Shorts** consists of fine particles of wheat bran, wheat germ, wheat flour and the offal from the "tail of the mill." This product shall be obtained in the usual process of commercial milling and shall contain not more than 7% of crude fiber. (Proposed 1959.)

**Wheat Red Dog** consists of the offal from the "tail of the mill" together with some fine particles of wheat bran, wheat germ and wheat flour. This product shall be obtained in the usual process of commercial milling and shall contain not more than 4% of crude fiber. (Proposed 1959.)

The resolution on page 59 was editorially changed and now reads:

Resolved when "Ground Wheat Screenings" are added to any wheat product, such screenings added shall be limited to "Ground Wheat Screenings" not exceeding the run of the mill; and screenings from outside sources shall not be added. The declaration of "Ground Wheat Screenings" must be made in the name and in the same size type as the product name itself. For example: "Wheat Bran with Ground Wheat Screenings," "Wheat Shorts with Ground Wheat Screenings."

The following definitions on pages 58 and 59 were dropped:

**No. 233.** Wheat Mixed Feed
**No. 224.** Wheat Standard Middlings
**No. 225.** Wheat Brown Shorts
**No. 226.** Wheat Gray Shorts, Wheat Gray Middlings or Wheat Flour Middlings
**No. 227.** Wheat Red Dog, Wheat White Shorts or Wheat White Middlings

**YEAST**

Definition T-19, page 60, was made official, replacing definition 234 which was dropped and the note was editorially changed, the whole now reading:

**Irradiated Dried Yeast, Irridated** ..... **Dried Yeast** is the dried non-fermentative yeast which has been subjected to ultra-violet rays in order to produce anti-rachitic potency. (Proposed 1958, Adopted 1959.)

**Note** — When Irradiated Dried Yeast or Irradiated ..... Dried Yeast is used as an ingredient of proprietary feeds for four-footed animals, the name may be followed by a parenthetical phrase "(source of vitamin $D_3$)." (Adopted 1945, Editorially Changed 1959.)

**UNIFORM STATE FEED BILL**

(Proposals for consideration, study)

Amend the following three sections to read:

Section 3(b)—The term distribute means to offer for sale, sell or barter commercial feed, or customer-formula feed, or to supply, furnish or otherwise provide commercial feed or customer-formula feed to a contract feeder. The term distributor means any person who distributes.

Section 3(d)—The term commercial feed means all materials which are distributed for use as feed or for mixing in feed for animals other than man, except:

1. Option A. Unmixed whole seed and meals made directly from the entire seed. Option B. Unmixed and unprocessed whole seed.
2. Unground hay, straw, stover, silage, cobs, husks and hulls, when not mixed with other materials.
3. Individual chemical compounds when not mixed with other materials.

Section 3(f)—The term customer-formula feed means a mixture of commercial feed and/or materials, each batch of which mixture is mixed according to the specific instructions of the final purchaser or contract feeder.

Add the following sub-section to section 3 as 3(1):

The term contract feeder means a person who, as an independent contractor, feeds commercial feed to animals pursuant to contract whereby such commercial feed is supplied, furnished or otherwise provided to such person and whereby such person's remuneration is determined all or in part by feed consumption, mortality, profits or amounts or qualities of product.

Add the following to Section 4(a):

The ..... may by regulation permit on the registration the alternative listing of ingredients of comparable feeding value provided that the label for each package shall state the specific ingredients which are in said package.

In Section 6(a):

Substitute the word "distribution" for the word "sale", substitute the word "distributed" for the word "sold," delete "or exchanges between them" and "or exchanged."

**RULES AND REGULATIONS**

(Proposal for consideration, study)

Add the following to sub-section e, regulation 4:

Pursuit to section 4a of the law, alternative listing of ingredients within the following groups may be shown on the registration:

**First Group:** Corn, hominy feed, wheat, barley and grain sorghum.

**Second Group:** Cottonseed meal, soybean oil meal, peanut meal and linseed oil meal.

**Third Group:** Feeding beet molasses, feeding corn sugar molasses, feeding citrus molasses and feeding cane molasses.

**FALL FEEDER SALE**

DENVER, COLO. — More than 10,000 cattle were sold recently at the second in a series of fall feeder sales at the Denver Union Stock Yard Co. An estimated $1.5 million changed hands.

R. A. Haddock of Minneapolis, Kansas, paid $36.24 per cwt. for 20 head of 431-lb. Angus steers in the feature sale. They were sold by the Nebraska-Colorado Cattle Co., Craig, Colo.

Average price for steers was $33.29 per cwt. Heifers brought an average of $32.17.

# The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

### A AND D FEEDING OIL

**Chicago:** Demand fair; trend steady; supply ample; straight A feeding oil, with 10,000 units vitamin A per gram, 7@7¼¢ a million units of vitamin A, l.c.l., packed in 55-gal. drums, f.o.b. Chicago, drums included.

**Boston:** Demand and supply steady; 600 D, 1,500 A 17½¢ lb.; 400 D, 3,000 A 20¢; 300 D, 3,000 A 19½¢; 300 D, 2,250 A 18¢; 300 D, 1,500 A 16½¢; 300 D, 750 A 14½¢; 75 D, 750 A 14½¢.

**New York:** Demand and supply good; trend firm; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 13½@15½¢, 1,500 A 16½@17¢, 2,250 A 17½@20¢, 3,000 A 19@21¢; 600 ICU, 1,500 A 16@18¢, 2,250 A 18@19½¢; f.o.b. Massachusetts, New York or Pennsylvania.

**Denver:** Demand fair; trend steady; supply ample; 22¢ lb., f.o.b. Denver.

**Minneapolis:** Demand fair; supply ample; 10,000 A 34½¢ lb.; 300 D, 2,250 A 19¢ lb.; 300 D, 1,500 A 17½¢ lb.; 300 D, 750 A 18¢ lb.

### ALFALFA MEAL

**Chicago:** Demand good; trend steady; supply ample; 17% protein dehydrated, with 100,000 units vitamin A $61.50, carlots.

**Ft. Worth:** Demand improved; supply sufficient; dehydrated, 17%, 100,000 A $65.80 rail, $63@64 truck; suncured 13% ¼-in. grind No. 1 $46@48, truck or rail.

**New Orleans:** Demand fair; trend firm; supply adequate; vitamin A, 17% $65@66; pellets $60@61.

**Cincinnati:** Demand poor; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $64.50@66.50.

**Philadelphia:** Demand and supply fair; 17% dehydrated $61.50.

**Boston:** Demand fair; supply steady; dehydrated, 17% $61; suncured, 13% $48.

**Omaha:** Demand fair; trend strong; supply tight; 17% dehydrated, 100,000 A units, bulk pellets $50; sacked meal $55, Omaha basis.

**Memphis:** Demand fair; trend steady to higher; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $56.

**Minneapolis:** Demand strong but steady; supply adequate; 17% dehydrated, 100,000 units vitamin A reground pellets $56, bulk, Minneapolis; oiled reground pellets $58, sacks $4 more.

**Buffalo:** Demand and supply fair; trend steady; $62.50, Boston.

**St. Louis:** Demand good; trend firm; supply limited; suncured, 13% fine $46.50; dehydrated, 17%, 100,000 A, demand fair, trend firm, supply ample, $60.

**Denver:** Demand good; trend strong; supply ample; dehydrated $54, Denver.

**Los Angeles:** Demand steady; trend firmer; supply not too plentiful; dehydrated meal, 17% protein, 100,000 A $52, bulk; dehydrated pellet meal, 17% protein, 100,000 A $54, bulk; suncured meal, 15% protein $45@46, bulk; suncured crumbles, 15% protein $47@48, bulk.

**Seattle:** Demand fair; trend steady; supply good; 15% protein suncured $45, delivered, truck loads; 136,000 A unit dehydrated $68, delivered, truck loads.

**Kansas City:** Demand fair to good, with better forward interest reported; trend firm; supply adequate at present but production is finished for all practical purposes; dehydrated alfalfa with 17% protein and 100,000 units vitamin A guaranteed on arrival; reground meal $55, sacked; pellets $60, bulk; meal with 18% protein and 125,000 units A $59, sacked; meal with 20% protein and 150,000 units A $65, sacked; suncured meal demand is slow but supplies are more plentiful than they have been, No. 1 fine ground $43, No. 1 ¼-in. $37@38, No. 2 ¼-in. $34@35, sacked.

### ANIMAL FAT (STABILIZED)

**Chicago:** Demand and supply good; trend steady; bleachable fancy tallow $6.75 cwt., yellow grease $6.37½ cwt., carlots.

**Ft. Worth:** Demand good; supply moderate; prime tallow, tank cars 6¢ lb.; drums 8¼¢ lb.; f.o.b. north Texas packing plants with returnable drums.

**New Orleans:** Demand fair; trend easy; supply adequate; 6@6½¢ lb., tank cars.

**Louisville:** Demand slow; trend steady; supply good; poor export demand hurting prices; bleachable white 5¾¢ lb.; white tallow 6¾¢ lb.; yellow grease 5¾¢ lb.

**Ogden:** Supply average; 6¼¢ lb., nominal.

**San Francisco:** Demand fair; supply ample; bleachable fancy 6¼¢ lb., yellow grease 5¼¢ lb.

**Boston:** Demand and supply steady; tallow 6¾¢ lb.; yellow grease 5¾¢ lb.

**St Paul:** Ample supplies knocked price down ½¢, compared with last week; demand good, but weaker trend continues; bleachable fancy tallow 6¢ lb., f.o.b. producers' plants.

**Kansas City:** Demand slow; trend steady; supply ample; prime tallow 5¾¢ lb., tank car.

### BARLEY FEED

**Ogden:** Supply average; rolled $48@53; whole barley $40@45.

**San Francisco:** Demand fair; supply ample; rolled $59; ground $58.

**Boston:** Demand slow; supply adequate; $46.

**Philadelphia:** Demand slow; supply fair; $48.

**New Orleans:** Demand slow; trend unchanged; supply ample; $52@53.

**Baltimore:** Demand fair; trend easier; supply ample; $43.50, carlots.

**Chicago:** Demand fair; trend easier; supply good; $33, carlots.

**Denver:** Demand and trend steady; supply adequate; rolled $1.90 cwt.

**Milwaukee:** Demand good; supply fair; needles 92¢@1.04 cwt.; ground screenings $25.

**Seattle:** Demand and supply good; trend firm; $48, bulk, truck loads.

**Los Angeles:** Demand better; trend firmer; supply firmly held; standard rolled $3.10 cwt.; standard, ground $3.10 cwt.

**NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bagged, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.**

### BENTONITE (SODIUM)

**Chicago:** Demand fair; trend steady; supply ample; f.o.b. Wyoming and South Dakota shipping points: granular, 30 mesh $16.50; fine granular, 80 to 100 mesh $13.75; powder, 200 mesh $13.50, f.o.b. Belle Fourche, S.D., minimum 30-ton carlots, 80 granular $13.50 net; 200 mesh, fine $13.25 net.

**Cincinnati:** Demand steady; supply adequate; f.o.b. Cincinnati, minimum 30-ton carlots: 80 granular $31.50; 200 mesh fine $31.

**Denver:** Demand fair; trend good; supply ample; $21.

### BLOOD FLOUR

**Louisville:** Demand slow; trend steady; supply good; $80@85.

### BLOOD MEAL

**Chicago:** Demand good; trend firm; supply ample; guaranteed 80% protein, in 100-lb. bags $120, carlots.

**New Orleans:** Demand dull; trend steady; supply adequate; $80@85.

**Louisville:** Demand slow; trend firm; supply good; $80@85.

**San Francisco:** Demand fair; supply ample; $6 a unit of ammonia.

**Omaha:** Demand and trend strong; supply short; $95, Omaha basis.

**Ogden:** Supply normal; $90 ton in 100-lb. bags, f.o.b. Ogden.

**Los Angeles:** Demand good; trend unchanged; supply adequate; $5.50 a unit of ammonia.

### BONE MEAL (STEAMED)

**Chicago:** Demand good; trend steady; supply fair; $97.50, carlots, in 100-lb. bags.

**Ft. Worth:** Demand good; supply light; $90, f.o.b. Ft. Worth, local manufacture.

**New Orleans:** Demand fair; trend easy; supply ample; $80@85.

**Louisville:** Demand slow; trend firm; supply light; $80@85.

**Cincinnati:** Demand good; trend steady; supply fair; $105, Cincinnati.

**Boston:** Demand and supply steady; $100.

**San Francisco:** Demand good; supply ample; $75.

**Buffalo:** Demand good; trend steady; supply limited; $105.

**Seattle:** Demand good; trend firm; supply limited; $90, delivered, truck lots.

**Los Angeles:** Demand fair; trend firmer; supply limited; imported $78 in 20-ton lots.

**Denver:** Demand good; trend firm; supply very tight; $106.70, Denver.

### BREWERS DRIED GRAINS

**Chicago:** Demand fair; trend steady; supply ample; 26% protein $42.50, carlots.

**Ft. Worth:** Demand slow; supply sufficient; 26% protein $49.50@50.50, October.

**New Orleans:** Demand fair; trend firm; supply good; $49@50.

**Louisville:** Demand fair; trend firm; supply good; $47.

**Cincinnati:** Demand poor; trend steady; supply adequate; $49.

**Philadelphia:** Demand and supply fair; $50.50.

**Boston:** Demand fair; supply adequate; 26% $42@42.50, bulk; 22% Canadian $51, sacked.

**San Francisco:** Demand fair; supply ample; $54.

**Buffalo:** Demand fair; trend steady; supply good; $42.50, bulk, Boston.

**St. Louis:** Demand good; trend firm; supply adequate; $40.

**Milwaukee:** Demand good; supply fair; $43.

**Los Angeles:** Demand slow; trend steady; supply adequate; $49.50 bulk, $53.50 sacked.

### BREWERS DRIED YEAST

**Chicago:** Demand fair; trend steady; supply ample; 9⅛@10¢ lb., carlots; 9⅝@12¼¢ lb., l.c.l.

**Milwaukee:** Demand fair; trend steady; supply ample; 10@11¢ lb., carlots; 10⅛@12¼¢ lb., ton lots.

**St. Louis:** Demand fair; trend firm; supply ample; 9⅛@10¢ lb., carlots; 10⅛¢ lb., ton lots; 11⅛¢ lb., less than ton lots.

**Louisville:** Demand dull; trend steady; supply good; 10@10⅛¢ lb.

**Cincinnati:** Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11⅛¢ lb.

**San Francisco:** Demand fair; supply good; 10¢ lb.

**Boston:** Demand and supply steady; 11¢ lb.

**Omaha:** 10⅝¢ lb.

**Buffalo:** Demand good; trend steady; supply limited; $9.75 cwt.

**Denver:** Demand light; trend steady; supply ample; 8¢ lb., f.o.b. Golden, Colo.

**Seattle:** Demand slow; trend steady; supply ample; $12 cwt.

**Los Angeles:** Demand slow; trend unchanged; supply adequate; 10¢ lb. in 5-ton lots; 11¢ lb. in 1-ton lots; 12¢ lb. in less than 1-ton lots.

**Portland:** Demand good; supply ample; trend unchanged; 8⅛¢ lb.

**Pittsburgh:** Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11⅛¢ lb.

**New Orleans:** Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11⅛¢ lb.

**New York:** Carlots 9⅛¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10⅝¢ lb.; ton lots 11¢ lb., f.o.b. New Jersey.

### BUTTERMILK (CONDENSED)

**Chicago:** Demand and supply fair; trend firm; $3.25@3.50 cwt., carlots.

**New Orleans:** Demand slow; trend unchanged; supply adequate; $4.25@4.30 cwt.

**Louisville:** Demand slow; trend steady; supply nil; $4.25 cwt., nominal.

**Philadelphia:** Demand and supply fair; $4.25 cwt.

**Boston:** Demand and supply steady; 3¾¢ lb.

**Ogden:** Supply normal; $4.40, 100-lb. drum.

**San Francisco:** Demand fair; supply good; $5 cwt.

**Los Angeles:** Demand slow; trend unchanged; supply adequate; 5½¢ lb. in 100-lb. lots; 4½¢ lb. in 500-lb. lots.

### CALCITE CRYSTALS AND FLOUR

(All prices net, including freight)

**New York:** Crystals $16.28, flour $10.28.
**Buffalo:** Crystals $17.11, flour $11.11.
**Toledo:** Crystals $18.96, flour $12.96.
**Boston:** Crystals $17.63, flour $11.63.
**Lime Crest, N.J.:** Crystals $11.50, flour $5.50.

### CALCIUM CARBONATE

**Chicago:** Demand fair; trend steady; supply ample; fine grind, plain, 100-lb. bags $9.54; bulk, in hopper cars $7.54; bulk, in boxcars $8.04; granular grind $1 premium.

**Cincinnati:** Demand fair; trend steady; supply adequate; $8@9 cwt.

**Seattle:** Demand and trend steady; supply good; $14, ex-warehouse, truck lots.

**Los Angeles:** Demand slow; trend unchanged; supply ample; flour $10.15, 20-ton cars; meal $11.15, 20-ton cars.

**Minneapolis:** Fine grind, 50-lb. bags $12.25, 100-lb. bags $11.50; bulk, boxcar $10; bulk, hopper $9.50; coarse grind $1 premium, delivered Minneapolis.

### CHARCOAL

**Chicago:** Demand steady; trend firm; supply ample; $110, carlots, in 50-lb. multiwalls.

**Boston:** Demand and supply steady; $110.

**San Francisco:** Demand steady; supply ample; $141.

**Los Angeles:** Demand good; trend unchanged; supply adequate; hardwood poultry, $156, less than ton lots; $144.40, ton lots.

### COCONUT OIL MEAL

**San Francisco:** Demand good; supply tight; $66.

**Seattle:** Demand fair; trend firm; supply ample; $79, delivered, truck.

**Los Angeles:** Demand slow; trend unchanged; supply adequate; copra cake $70, bulk.

### COD LIVER OIL (FORTIFIED)

**Boston:** Demand and supply steady; 300 D, 3,000 A 20½¢ lb.; 300 D, 2,250 A 18½¢; 300 D, 1,500 A 17¢; 600 D, 1,500 A 18¢.

**New York:** Demand and supply good; trend firm; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 14½@15½¢, 1,500 A 18½@20¢, 2,250 A 18½@21¢, 3,000 A 21½@23¢; 500 ICU, 1,500 A 17½@19½¢, 2,250 A 20@22¢, 3,000 A 22@23¢; f.o.b. Massachusetts, New York or Pennsylvania.

### CONDENSED FISH SOLUBLES

**New Orleans:** Demand light; trend easy; supply normal; $60@65, f.o.b. Gulf.

**Boston:** Demand and supply good; 4¾¢ lb.

**New York:** Demand poor; trend lower; supply tight; 2¾@2½¢ lb., f.o.b. eastern shore.

**Denver:** Demand poor; trend steady; supply ample; dried $167, Denver.

**Los Angeles:** Demand slow; trend weaker; supply adequate; 3½¢ lb.

### CORN GLUTEN FEED AND MEAL

(All quotations for all cities are sacked basis, bulk basis $5 less)

**Minneapolis:** Feed $48.90, meal $64.90.
**Atlanta:** Feed $54.98, meal $70.98.
**Birmingham:** Feed $53.64, meal $69.54.
**Boston:** Feed $53.84, meal $69.84.
**Chicago:** Feed $42, meal $58.
**Cleveland:** Feed $50.14, meal $66.14.
**Denver:** Feed $52.51, meal $68.51.
**Ft. Worth:** Feed $50.96, meal $66.96.
**Indianapolis:** Feed $47.36, meal $63.36.
**Kansas City:** Feed $42, meal $58.
**Louisville:** Feed $49.21, meal $65.21.
**New Orleans:** Feed $52.20, meal $68.20.
**New York:** Feed $54.43, meal $69.43.
**Norfolk:** Feed $52.71, meal $68.71.
**Philadelphia:** Feed $53.02, meal $69.02.
**Pittsburgh:** Feed $50.96, meal $66.96.
**St. Louis:** Feed $42, meal $58.
**Decatur, Ill.:** Feed $36.76, meal $54.75.

### CORN OIL MEAL

**Louisville:** Demand dull; trend steady; supply light; $49.45.

**Cincinnati:** Demand fair; trend steady; supply adequate; $46.

### COTTONSEED OIL MEAL

**Chicago:** Demand better; trend upward; supply moderate; hydraulic $62.50@63, carlots, Memphis basis; solvent $61.

**Ft. Worth:** Demand excellent; supply sufficient; 41% old process $67; solvent 1% fat added $69, nominal; pellets $2 additional; cottonseed hulls $17@18, sacked.

**New Orleans:** Demand good; supply adequate; trend steady; $73@73.50.

**Louisville:** Demand slow; trend strong; supply poor; old process $68; new process $66.

**Cincinnati:** Demand poor; trend higher; supply adequate; $68.10.

**Philadelphia:** Demand and supply fair; trend unsettled; $73.

**Wichita:** Demand fair; supply sufficient; 41% old process $69.50.

**Boston:** Demand slow; supply light; $72, nominal.

**San Francisco:** Demand good; supply tight; 41% $65; 44% $68.

**Omaha:** Demand easy; trend strong; supply tight; 41% solvent $64.70, bulk, delivered Omaha.

**Ogden:** Supply normal; 41% $85@90.

**Memphis:** Demand strong; trend higher; supply small; prime 41% protein, old process $63; new process, 41% solvent $61.

**Seattle:** Demand good; trend firm; supply limited; 41% expeller process $78, delivered, truck lots.

**Buffalo:** Demand poor; trend steady; supply fair; $74.75, Boston.

**St. Louis:** Demand fair; trend firm; supply adequate; solvent $64.50.

**Denver:** Demand excellent; trend strong; supply limited; 2% fat $68.40.

**Kansas City:** Demand slow in this area but good in South; trend steady to firm; supply tight for spot shipment, virtually all of Texas production is sold ahead; old process meal $63@63.50; solvent $61@61.50, sacked, Memphis.

**Los Angeles:** Demand good; trend steady; supply adequate; $66@67, bulk.

### CURACAO PHOSPHATE

**New York:** Trend steady; ground Curacao phosphate in 100-lb. bags $48, f.o.b. cars or trucks, New Orleans, Jacksonville, Fla., or Philadelphia.

### D ACTIVATED ANIMAL STEROL, POWDERED

**Cincinnati:** Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢ lb.; 3,000 ICU 18¢ lb., warehouse.

**New York:** Demand and supply good; trend firm; price per lb. in 50- and 100-lb. bags or 100-lb. drums: 1,500 ICU 8@12¢ bagged, 12@13¢ drums; 3,000 ICU 13@17¢ bagged, 17@18¢ drums; f.o.b. or delivered basis Pennsylvania, Delaware or New York.

**Kansas City:** Demand fair; trend steady; supply adequate; 1,500 ICU 9⅝¢ lb.; 3,000 ICU 11½¢ lb.

### D ACTIVATED PLANT STEROL (POWDERED)

**Chicago:** Demand fair; supply ample; 4,000,000 U.S.P. units per lb., 15¢ lb. in ton lots, less than ton lots 17¢ lb.; 12,000,000 units per lb., 5 tons to a carload 23¢ lb., ton lots and less 30¢ lb.

### DEFLUORINATED PHOSPHATE

**Tupelo, Miss.:** Minimum phosphorus 13%, minimum calcium 31%, maximum fluorine .12%, $51 net ton, f.o.b. Tupelo in 100-lb. multiwall bags, $48 in bulk.

**Wales, Tenn.:** Minimum phosphorus 18%, minimum calcium 33%, maximum calcium 36%, maximum fluorine .18% $69.12 net ton, f.o.b. Wales in 100-lb. multiwall bags, $3 less in bulk.

**Coronet, Fla.:** Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; carlots $63.50, truck load $64.25, net ton, f.o.b. Coronet in 100-lb. multiwall bags; $60.50 and $57.50 in bulk.

**Cincinnati:** 18% phosphorus $51; 13% phosphorus $64.98, f.o.b. Cincinnati.

**Houston:** Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $71.50 net ton, f.o.b. Houston, 100-lb. multiwall paper bags, $68.50 in bulk.

### DICALCIUM PHOSPHATE

**Chicago:** Stock food grade, 18.5% phosphorus, 20,000 lb. or more $83.25 net ton in 100-lb. papers, basis Chicago Heights, Ill., or Nashville, Tenn.; less than 20,000 lb. $93.25; 21% phosphorus, 20,000 lb. or more $94.50, basis Chicago Heights and Nashville; less than 20,000 lb. $104.50; bulk boxcars or hoppers $3 net ton less than bagged material.

**Bonnie, Fla.:** Minimum phosphorus 18½%, granular $83.25; freight equalized with closest producing point, carload basis.

**Texas City, Texas:** 18.5% minimum phosphorus, 21% minimum calcium, 24% maximum, granular $77.70 net ton, f.o.b. Texas City in 100-lb. multiwall bags; bulk, boxcars and hoppers, $3 net ton less than bagged materials.

**Columbia, Tenn.:** Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guaranteed $83.25, f.o.b. Columbia, in 100-lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

**Cincinnati:** 18½% phosphorus $92@93.

**Denver:** Demand fair; trend steady; supply ample; $97.60, delivered in Denver.

### DISTILLERS DRIED GRAINS

**Louisville:** Demand fair; trend steady; supply poor; production increasing; bourbon grains: light $45@46, dark $47@48, solubles $77.

**Philadelphia:** Demand slow; supply light; $56.50.

**Boston:** Demand fair; supply adequate; Canadian medium dark $50, bulk; domestic dark, sacked $55.

**San Francisco:** Demand fair; supply ample; solubles $35.

**Buffalo:** Demand good; trend steady to higher; supply fair to good; $52, bulk, Boston.

**Seattle:** Demand good; trend easy; supply limited; $56.50, delivered, truck lots.

### DRIED BEET PULP

**Ft. Worth:** Demand slow; supply moderate; carlots, 50-lb. papers $49.20, immediate or November-December, delivered Ft. Worth.

**New Orleans:** Demand fair; trend steady; supply adequate; $50@51.

**Boston:** Demand fair; supply good; $51.

**San Francisco:** Demand good; supply fair; $42.80, bulk.
**Ogden:** Supply normal; $42@46.
**Milwaukee:** Demand good; supply fair; plain $43, molasses $43.
**Buffalo:** Demand fair; trend steady; supply adequate; $51, Boston.
**Denver:** Demand excellent; trend steady to strong; supply short; $32, bulk, Denver.
**Seattle:** Demand good; trend steady; supply limited; $50, delivered, carlots.
**Los Angeles:** Demand fair; trend unchanged; supply adequate; $47.80@48.60.

### DRIED BUTTERMILK

**Chicago:** Demand good; trend higher; supply moderate; medium acid $10.75@11 cwt., sweet cream $11@11.25 cwt., carlots.
**New Orleans:** Demand fair; trend easy; supply ample; $11.50@12 cwt.
**Louisville:** Demand slow; trend steady; supply normal; 11½@12¢ lb.
**San Francisco:** Demand fair; supply ample; 11½¢ lb.
**Ogden:** Supply normal; $8.50, 100-lb. bag.
**Buffalo:** Demand good; trend steady; supply limited; $11.85 cwt.
**Milwaukee:** Demand and supply fair; $10.50 cwt.
**Los Angeles:** Demand slow; trend unchanged; supply adequate; 12¢ lb.

### DRIED CITRUS PULP

**New Orleans:** Demand fair; trend easy; supply normal; $32.50@35, f.o.b. Florida points.
**Boston:** Demand slow; supply spotty; $51, delivered.
**San Francisco:** Demand and supply fair; $49.
**Buffalo:** Demand fair to poor; trend steady; supply adequate; $32.50, f.o.b. Florida points.
**Los Angeles:** Demand steady; trend unchanged; supply not too plentiful; orange pulp $41, bulk; lemon pulp $40, bulk.

### DRIED SKIM MILK

**Chicago:** Demand good; trend steady; supply fair; $11@11.50 cwt., carlots.
**New Orleans:** Demand fair; trend unchanged; supply ample; $11.50@12 cwt.
**Louisville:** Demand dull; trend steady; supply normal; 11½@12¢ lb.
**Cincinnati:** Demand fair; trend steady; supply adequate; 10¼@10¾¢ lb.
**Philadelphia:** Demand and supply fair; $12.50 cwt.
**Boston:** Demand good; supply tight; 12¢ lb., nominal.
**San Francisco:** Demand and supply fair; 13¾¢ lb.
**Ogden:** Supply normal; $15.15, 100-lb. drum.
**Minneapolis:** Demand good; supply scarce; trend strong; up 25@50¢ to $12@12.50 cwt.
**Buffalo:** Demand good; trend steady; supply limited; spray $11.25 cwt.
**Milwaukee:** Demand and supply fair; $10.50 cwt.
**Los Angeles:** Demand slow; trend unchanged; supply adequate; 14¢ lb. in less than ton lots; 13¾¢ lb. in ton lots.

### DRIED WHEY

**Chicago:** Demand and supply fair; trend unchanged; $6.50@5.75 cwt., carlots, f.o.b. plant.
**Ft. Worth:** Demand fair; supply adequate; carlots, standard $6, sacked, delivered Ft. Worth; $6.25 ton lots, f.o.b. warehouse Ft. Worth.
**New Orleans:** Demand good; trend easy; supply ample; $6@6.50 cwt.
**Louisville:** Demand slow; trend steady; supply normal; 6⅝¢ lb.
**Cincinnati:** Demand fair; trend steady; supply adequate; $6.15 cwt.
**Philadelphia:** Demand and supply fair; $6.50 cwt.
**Wichita:** Demand light; supply ample; $6.50 cwt.
**Boston:** Demand and supply steady; 5½¢ lb., f.o.b. shipping points.
**San Francisco:** Demand steady; supply good; $5.75 cwt.
**Ogden:** Supply average; $6.90, 100-lb. bag.
**Minneapolis:** Demand good; supply tight; trend steady; $5.50 cwt.
**Denver:** Demand fair; trend steady; supply ample; $6.50 cwt.
**Kansas City:** Demand fair; trend steady; supply moderate; regular or partially delactosed $5.50 cwt., producers' points.
**Seattle:** Demand and trend steady; supply good; $6.40 cwt., ex-warehouse, l.c.l.
**Los Angeles:** Demand slow; trend unchanged; supply adequate; $5.93 cwt., carloads; $6.23 cwt., l.c.l.

### FISH MEAL

**Chicago:** Demand poor; trend firm; supply ample; carlots, menhaden eastern $130 @125 and scrap $116@121; Gulf $128@130 and scrap $124@126; Canadian herring meal $1.90 a unit of protein.
**Ft. Worth:** Demand fair; supply limited; 60% menhaden $139, prompt, delivered Ft. Worth.
**New Orleans:** Demand fair; trend steady; supply good; menhaden, 60% $128@130, scrap $124@126, f.o.b. Gulf.
**Louisville:** Demand slow; trend steady; supply light; $145@150.
**Cincinnati:** Demand fair; trend steady; supply adequate; $143.
**Boston:** Demand fair; supply light; $130.
**San Francisco:** Demand slow; supply ample; $190 a unit of protein.
**Omaha:** Demand and trend fair; supply ample; 60% menhaden $140.
**Ogden:** Supply normal; $2.20 a unit, f.o.b. Coast; 65% $166@168.
**Minneapolis:** Demand fair; supply adequate; weaker trend: Gulf menhaden $144 @146; 60% blended $144@146; 70% herring $1.85@1.95 a unit of protein, f.o.b. West Coast.
**Denver:** Demand poor; trend steady; supply ample; $2.15 a unit of protein, f.o.b. West Coast.
**Milwaukee:** Demand good; supply fair; 60% $160, Milwaukee.
**Seattle:** Demand and supply good; trend easy; $2 a unit protein, ex-dock (Alaskan).
**Los Angeles:** Demand slow; trend unchanged; supply adequate; local production, 60% protein $1.85 a unit.
**Buffalo:** Demand just fair; trend steady; supply ample; 60% protein, menhaden $138 bulk, $143 sacked.

### HOMINY FEED

**Chicago:** Demand slower; trend easier; supply ample; $40.50, carlots.
**New Orleans:** Demand slow; supply ample; trend steady; $45@46.
**Louisville:** Demand slow; trend steady; supply normal; $44.50.
**Cincinnati:** Demand fair; trend lower; supply adequate; $43.50.
**Boston:** Demand cautious; supply ample; $46, bulk.
**Memphis:** Demand poor; trend steady; supply ample; white $42, yellow $42.
**Buffafo:** Demand and supply fair; trend steady; $48, bulk, Boston.
**St. Louis:** Demand slow; trend easier; supply ample; yellow $43.
**Kansas City:** Demand fairly good; trend firm although low milo price should hold price back; supply tight, especially for yellow; yellow $33.50@34, bulk; white $33, bulk.
**Milwaukee:** Demand and supply good; $40.50, Milwaukee.
**Seattle:** Demand fair; trend steady; supply limited; $55, delivered, carlots.

### LINSEED OIL MEAL

**Chicago:** Demand strong; trend higher; supply light; Minneapolis basis, solvent $70.50, expeller $75.50, carlots.
**Ft. Worth:** Demand slow; offerings extremely light; 34% protein: solvent, truck $93.50; old process, truck $95@96.
**New Orleans:** Demand slow; supply ample; trend strong; $82@82.50.
**Louisville:** Demand slow; trend steady; supply normal; old process $94; new process $87.50.
**Cincinnati:** Demand poor; trend lower; supply adequate; new process $88; old process $92.
**Philadelphia:** Demand and supply fair; trend unsettled; 34% $92.50.
**Wichita:** Demand fair; supply sufficient; 34% $89.20.
**Boston:** Demand slow; supply light; $90.
**San Francisco:** Demand fair; supply ample; $74.50.
**Omaha:** Demand easy; trend strong; supply tight; 34% solvent $75.80, bulk; 32% old process $81.30, Omaha basis.
**Minneapolis:** Demand good; supply adequate to ample; trend steady to slightly stronger; new process $70.50, bulk, for October; $71.50 for November-December; old process steady at $75.50.
**Denver:** Demand poor; trend strong; supply tight, small crop; $88.94.
**Kansas City:** Demand slow; trend steady; supply adequate, although export interest has been felt; solvent meal $70@70.50, bulk, Minneapolis; old process $75.50.
**Milwaukee:** Demand good; supply fair; old process $86; new process $81.
**Seattle:** Demand fair; trend steady; supply limited; 31% protein (California) $90, delivered, carloads.
**Los Angeles:** Demand fair; trend steady; supply limited; local production, 29% protein $71, bulk.

### LIVER AND GLANDULAR MEAL

**Omaha:** Demand fair; trend firm; supply short; 65% $200, Omaha basis.

### MEAT AND BONE MEAL

**Chicago:** Demand and supply fair; trend easier; 50% protein, in 100-lb. bags $82.50, carlots.
**Ft. Worth:** Demand steady; supply ample; meat and bone, 50% $76@77, f.o.b. or delivered Ft. Worth.
**New Orleans:** Demand slow; trend easy; supply ample; $80@85.
**Louisville:** Demand slow; trend firm; supply good; $80@85.
**Cincinnati:** Demand good; trend easy; supply fair; 50 meat and bone scraps $77.50, Cincinnati.
**Wichita:** Demand good; supply sufficient; 50% $90, f.o.b. plant; 55%, no quotations, no offerings.
**Boston:** Demand and supply steady; $1.10 a protein unit; converted 50% $67.50.
**San Francisco:** Demand fair; supply ample; $1.50 a unit of protein.
**Omaha:** Demand good; trend fair; supply fair; $77.50.
**Ogden:** Supply average; $80 ton in 100-lb. bags.
**St. Paul:** Demand remains poor; supply ample; trend downward; off $3@5 from last week to $72@75.
**New York:** Demand and supply fair; trend steady; 50% $65, 55% $72.50, bulk; 50% $68, 55% $75.50, sacked.
**Buffalo:** Demand just fair; trend easier; supply ample; 50% meat scraps $72.50 bulk, $77.50 sacked.
**St. Louis:** Demand slow; trend steady; supply ample; $75.
**Denver:** Demand slow; trend steady; supply ample; 50% $80, bagged, truck lots; $67.50, bulk lots.
**Kansas City:** Demand slow; trend weaker; supply ample as production increases; 50% meat and bone scraps $72.50@75, sacked.
**Seattle:** Demand good; trend steady; supply ample; 50% protein $80, ex-warehouse.
**Los Angeles:** Demand good; trend steady; supply moderate; 50% protein $1.60 a unit, bulk.

### MILLFEED

**Minneapolis:** Market stronger at week's end than early in week, but about the same as end of last week; middlings steady at $34, bran off 50¢ to $33@33.50, red dog steady at $41@42.
**Kansas City:** Demand improved; trend steady; supply tight on spot sacked bran and tightening up on shorts; bran and shorts $35@35.75, sacked; bran $30.50@31.25, shorts $30.75@31.50, middlings $29.50@30.25, bulk.
**Wichita:** Demand fair, with bran in stronger demand than shorts; supply about offsets demand; basis Kansas City: bran $35.25@35.75, shorts $35.25@35.75; bran advanced 75¢, while shorts declined $4.75 compared with the preceding week.
**Ft. Worth:** Demand poor; liberal offerings; carlots, burlaps, bran $42.50@43, gray shorts $42.50@43, bulk middlings $38.50, delivered Texas common points; about unchanged on bran, $4.50@5 lower on shorts and $3 lower on middlings compared with previous week.
**Chicago:** The week ending Oct. 21 witnessed another downturn in millfeed prices. Offering remained relatively liberal and found a rather unsatisfactory demand to absorb them. Quotations, Chicago basis, carlots: standard bran, sacked $38 and bulk $31; standard midds., sacked $38 and bulk $33; red dog, sacked $46.50 and bulk $42.50.
**Omaha:** Demand fair; trend steady; supply ample; sacked bran $36.50; sacked gray shorts $36.50; bulk standard midds. $30.50, all Omaha basis.
**Cincinnati:** Demand poor; trend lower; supply adequate; bran $41, middlings $45.
**Memphis:** Demand fair; trend steady; supply ample; wheat bran $42.50, sacked; gray shorts $43.50, sacked; standard midds. $36.70, bulk.
**Boston:** Demand spotty; supply tight; bran $46.50@47.50; middlings $50.50.
**Buffalo:** Inventory buying, mostly by the country trade, featured a gyrating millfeed market last week. The sacked differential on bran and middlings widened to $7.50 from $6.50. There was no increase in consumption or change in the supply factor and prices were stimulated by jamming buying in short periods of time rather than spreading it out over a five-day week. The western premium over local levels dissipated and prices became competitive. During the week bran was up $1, off $2 and then up $2, with bulk ending $1 higher, and sacked up $1.50. Middlings advanced $1, declined $3.50 and rallied $3.50, with bulk ending up $1 and sacked up $1.50. Red dog, bulk and sacked gained 50¢. Quotations Oct. 21: bulk bran $31.50@33, sacked $38.50@40; bulk middlings $36@37.50, sacked $43@44.50; bulk red dog $46@47, sacked $51@52.
**Philadelphia:** Demand and supply fair; bran $46.50, standard middlings $50, red dog $57.50.
**New York:** Demand fair; trend upward; supply good; bran $44.50@45, standard midds. $48.50@49.
**New Orleans:** Demand good; trend easy; supply ample; bran $46.75@47.70, shorts $47.25@48, sacked; bran $41.75@42.50, shorts $44.50@45.25, middlings $41.50@42.25, bulk.
**Louisville:** Demand slow; trend weak; supply good; bran, mixed feed, shorts, all at $45.50; middings $46.30.
**Denver:** Demand fair to good; trend steady; supply adequate; shorts $38.75, bran $38.75, mill run $38.75.
**Seattle:** Demand fair; trend steady; supply limited; $45, delivered common transit points, carlots.
**Ogden:** Supply normal; to Utah and Idaho: red bran and mill run $44, middlings $49; to Denver: red bran and mill run $51, middlings $56; to California: red bran and mill run $51.50, middlings $56.50, f.o.b. San Francisco and Los Angeles.
**Los Angeles:** Standard mill run $49@49.50, bulk, good demand for nearby, steady trend, supplies not too plentiful; red bran $49.50@50, bulk, demand fair, steady trend, adequate supplies.
**San Francisco:** Demand good; supply tight; millfeed $48.50; red bran $53.50.

### MOLASSES

**Minneapolis:** Demand fair, but spotty; supply adequate; trend steady to slightly stronger; $31, tank trucks, delivered.
**Ft. Worth:** Demand fair; supply sufficient; blackstrap 11¼¢ gal., f.o.b. Houston; delivered Ft. Worth, truck $25.94, seller's market price on date of shipment.
**New Orleans:** Demand good; supply ample; trend steady; 10¢ gal., tank cars and trucks; 600-lb. customers' drums $7.05.
**Louisville:** Demand fair; trend easy; supply normal; 10¼¢ gal., tank car lots, f.o.b. Gulf ports.
**Cincinnati:** Demand fair; trend steady; supply adequate; 10¢ gal., New Orleans.
**Boston:** Demand steady; supply plentiful; 16½¢ gal. in tank cars.
**San Francisco:** Demand and supply good; $30, f.o.b. cars, Richmond, Cal.
**Memphis:** Demand poor; trend steady to higher; supply ample; blackstrap 10¢ gal., tank car, f.o.b. New Orleans.


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**New York:** Demand fair; trend steady; supply good; blackstrap 16¢ gal., tank cars, tank wagons, f.o.b. New York.

**Buffalo:** Demand fair; trend steady; supply good; 15½¢ gal., f.o.b. Albany.

**St. Louis:** Demand slow; trend steady; supply ample; 10¢ gal., New Orleans.

**Denver:** Demand fair; trend firm; supply ample; 10½¢ gal., New Orleans; $17.95 ton, New Orleans; $20 ton, West Coast.

**Kansas City:** Demand fair, better in cattle feed markets; trend steady; supply ample; 10¢ gal., tank car, New Orleans.

**Seattle:** Demand fair; trend easy; supply good; $20.25, f.o.b. Seattle, tank car lots or truck lots.

**Los Angeles:** Demand good; trend steady; supply adequate; $20, bulk, f.o.b. tank cars; $20.25, bulk, f.o.b. tank trucks.

### NIACIN

**New York:** Trend steady; $6 kilo, 10-kilo lots; $6.20 kilo, 5- and 2½-kilo lots; $6.30 kilo, 1-kilo lots; freight prepaid or paid to destination.

### OAT PRODUCTS

**Chicago:** Demand good; trend steady; supply adequate; carlots, reground oat feed $16@16.50; No. 1 fine ground feeding oatmeal $79; feeding rolled oats $79@82.

**Minneapolis:** Demand still slow, unchanged from week ago; supply ample; trend steady; feeding rolled oats $83, feeding oatmeal $69, pulverized $47, crimped $61, reground $17.


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**Louisville:** Demand slow; trend stronger; supply ample; reground $23.30, rolled oats $87.30, feeding oatmeal $79.80, pulverized $53.30, crimped $69.30.

**Cincinnati:** Demand poor; trend steady; supply adequate; reground oats $30; pulverized white oats $55.

**Philadelphia:** Pulverized white demand slow, supply fair $53; domestic demand slow, supply fair $27; Canadian oat feed demand slow, supply light $27.

**Boston:** Demand active; supply light; white pulverized $56, nominal; reground oat feed $25@26.

**Memphis:** Demand poor; trend steady; supply ample; 5⅛% protein, reground oat feed $23.25.

**Seattle:** Demand good; trend firm; supply fair; $54, bulk, delivered, truck lots.

**Los Angeles:** Demand slow; trend unchanged; supply limited; local production, pulverized $63.

### PEANUT OIL MEAL

**Milwaukee:** Demand good; supply fair; 26% $42.50.

### SCREENINGS

**Minneapolis:** Supplies of both Canadian and domestic screenings limited; demand good for some types; Canadians able to sell all they want to Europe at asking price; little trading in Canadian, up $1 to $24; no domestic trading, nominal quotations: lights $6@15, mediums $16@25, heavies $26@35; flax screenings, basis 15%, up $1 to $42.

**Chicago:** Demand fair; trend steady; supply good; ground grain screenings $31@31.50; Canadian $24.90, carlots.

**Ft. Worth:** Demand good; supply limited; ground mixed grain $34.50.

**Cincinnati:** Demand fair; trend steady; supply adequate; ground oat screenings $19.

**Buffalo:** Demand fair to good; trend higher; supply fair to poor; ground, sacked $38, New York, lake and rail; unground, bulk $31.50, New York.

### SORGHUMS

**Ft. Worth:** Demand good; supply sufficient; carlots, bulk, No. 2 yellow milo $1.94@1.96, delivered Texas common points.

**Ogden:** Supply average; milo $42@43.

**Seattle:** Demand and supply good; trend steady; milo $46, bulk, carlots.

**Los Angeles:** Demand good; trend easier; supply adequate; milo $3.12½ cwt., bulk.

### SOYBEAN OIL MEAL

**Minneapolis:** Better harvesting conditions for beans bringing down price; demand good; down $1@2 to $49, bulk, Decatur, for shipment to Minneapolis.

**Ft. Worth:** Demand fair; supply adequate; carlots: 44% $73, prompt; $72, November-August coupled; 50% protein, $78, prompt; $77, November-August coupled; truck: 44% $74.50.

**New Orleans:** Demand slow; supply ample; trend steady; $67.50@68.

**Louisville:** Demand slow; trend easy; supply normal; $66.20.

**Cincinnati:** Demand fair; trend lower; supply adequate; $56@57, bulk, Decatur.

**Philadelphia:** Demand and supply fair; trend unsettled; 44% $53.50, bulk, Decatur.

**Wichita:** Demand good; supply fair; 44% $69, 50% $77, f.o.b. Wichita.

**Boston:** Demand slow; supply plentiful; 44% $52.50; 50% $58, both bulk, f.o.b. Decatur.

**San Francisco:** Demand good; supply ample; $79.40.

**Omaha:** Demand fair; trend easy; supply ample; 44% $57.60, bulk, delivered Omaha.

**Ogden:** Supply normal; $34@39.

**Memphis:** Demand strong; trend higher; supply small; prime 44% solvent $66.50, f.o.b. Memphis.

**Chicago:** Soybeans have started to move from first hands in seasonal volume, bringing about a rather sharp decline in prices. Offerings of meal increased rather materially and found only a "so-so" demand to absorb it. Soybean meal futures put on a $2 rally on the October delivery, although falling about 75¢ ton short of equaling the seasonal high mark for that meal future at Chicago. Quotations, Decatur basis, carlots—44% protein, unrestricted billing $57 and eastern restricted $52; 50% protein, unrestricted $62 and eastern restricted $57.50.

**St. Louis:** Demand slow; trend steady; supply limited; 44% $64.50.

**Denver:** Demand fair; trend steady; supply ample; $71.64, Denver.

**Kansas City:** Demand fairly good, with export interest and forward buyers in market; trend firm; supply adequate; meal for Kansas City $54, bulk, Decatur; unrestricted $56.

**Milwaukee:** Demand good; supply fair; $56, bulk, Decatur.

**Seattle:** Demand fair; trend weak; supply ample; $80, delivered, carlots.

**Los Angeles:** Demand slower; trend weaker; increased offerings; $75.90@76.90, bulk.

### TANKAGE

**Chicago:** Demand fair; trend easier; supply ample; 60% protein, in 100-lb. bags $82.50, carlots.

**Ft. Worth:** Demand fair; supply short; 60% digester $80, Ft. Worth.

**New Orleans:** Demand fair; trend steady; supply light; $84.50@85.

**Louisville:** Demand dull; trend steady; supply good; $85@90.

**St. Paul:** Demand very slow; supply ample; trend down; off $3@4 at $74@76.

**Cincinnati:** Demand good; trend easy; supply fair; 60% digester $79.50, Cincinnati.

**Wichita:** Demand good; supply sufficient; 60% $90, f.o.b. plant.

**Omaha:** Demand good; trend fair; supply fair; $77.50.

**Kansas City:** Demand slow; trend weaker; supply ample with production increasing; 60% digester $72.50@75, sacked.

**St. Louis:** Demand slow; trend steady; supply ample; $78.

### VEGETABLE AND ANIMAL FAT (HYDROLYZED)

**Ft. Worth:** Demand good; offerings limited for nearby shipment; 5½¢ lb., nominal, f.o.b. north Texas area.

## MICHIGAN

(Continued from page 111)

panies that have always been wholesaling manufacturers exclusively are experimenting with merchandising that by-passes the feed dealer. Other manufacturers are distributing a great part of their production directly to the feeder."

Pointing out that direct selling by manufacturers is not new, Mr. Gwin said, "In the earliest days, the founder of the company and a couple of employees mixed the feed with scoop shovels, bagged it and loaded it into buggies. Then they drove out to the farms and sold it to the farmers. Nothing could be more direct than that kind of selling."

The beginning of "the great scientific advancements in feed formulation" came during the 1920's and 1930's, he noted. "With the inclusion of vitamins, minerals and other trace ingredients in the formulas, feed manufacturers were for the first time doing something for the feeder that he couldn't do for himself," Mr. Gwin said. "Commercial rations became more than a convenience. They were sold on the proposition of better results.

"A new responsibility was introduced into the feed business, the responsibility of seeing that the feeds were used in such a way that better results would actually result for the feeder. Filling this responsibility required some means of extending service to the customer, and the independent dealer organization seemed to be the answer.

**"Local Feed Merchant Era"**

"The feed industry, for the past two or three decades, has been in what might be called the 'local feed merchant era.' . . . The feed merchants who grew and prospered, and who contributed so much to the growth of the feed industry and to animal agriculture . . . looked upon their function as one of service as well as sales."

Mr. Gwin cited the development of the feed industry as an important force behind much of the progress in animal agriculture. "The big, professional feeders today would not think of operating without the benefit of modern commercial rations," he said. "Therein lies the big opportunity for the feed merchant of today and the future. But therein also lies one of the real reasons for the emergence again of direct selling in the feed industry."

He commented that the well informed, specialized feeder knows that price is not the final determining factor in buying feed. Instead, he said, the determining factor is the margin of profit that is left over for him. "If the service extended him by the feed dealer is strong enough to influence this margin favorably, then he doesn't question the dealer's profit and he isn't interested in becoming a customer of direct selling."

Commenting further on how feed dealers fit into the changing feed industry pattern, Mr. Gwin said they have a good future in prospect, but they must "make themselves bigger than their biggest customer" and they must be "big enough to lead." If dealers are not leaders, well informed and geared for service they will be by-passed in favor of direct selling, he said.

To illustrate the point that "the basic philosophy of distribution in the feed industry today is consistent with what it has been for the past several years," Mr. Gwin restated what J. D. Sykes, Ralston Purina vice president, said 6½ years ago in a talk at the 1953 American Feed Manufacturers Assn. convention:

"If our industry is going to continue to grow and meet the great challenge of our rapidly expanding population, we must be concerned not only with what we put into the bag, but what livestock and poultry producers get out of the bag. The key man is the man on whom our ultimate consumer must depend for sound and helpful advice, recommendations and service—the feed retailer. We must chart a course that will have as its objective a cheaper pound of meat, milk and eggs for the consumer at a fair profit to manufacturer, retailer and producer; and, gentlemen, no profit to manufacturer, retailer or producer is a fair profit unless that profit is earned."

**FREE MARKETS** — Robert C. Liebenow, president of the Chicago


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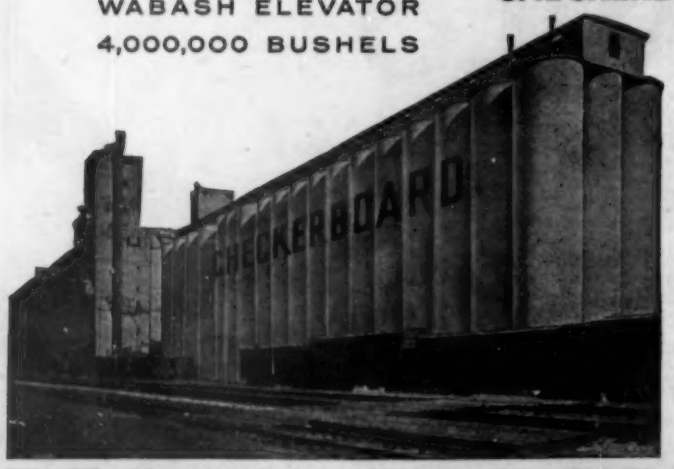


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Board of Trade, blasted government subsidies and declared "there is no substitute for the free market." He said the law of supply and demand is not out of date.

In discussing the direction the nation is heading in agriculture, Mr. Liebenow cited a recent survey of agricultural economists in land-grant colleges by John Strohm, Illinois agricultural editor, which pointed out that government-guaranteed prices will bring regulations over production and selling. He said laws further ham-stringing the free market will hurt the producer, the consumer and the nation.

"Legislation has not and cannot solve the farm problem, although the right kind might help," he added. "Schemes in foreign countries to guarantee all farmers a fair income have also been costly failures."

Economists say that countries whose governments discount or ignore free pricing of goods according to their production and use are not as well off as the U.S., Mr. Liebenow contended.

He said that "no political party wants to commit suicide by advocating complete termination of farm price supports. Even Ezra Taft Benson, secretary of agriculture, who came into office determined to reduce farm subsidies, remove acreage controls and whittle down the bureaucracy, met with such strong resistance that he has been virtually rendered ineffective," he maintained.

The speaker also blasted inequitable eligibility requirements for voting in the wheat referendum.

Under the eligibility rules, farmers who raise 15 acres of wheat or less are deprived of the right to vote in the referendum, although these same farmers are subject to the terms of the wheat program, he explained.

However, he said, people who have little or no connection with farming, but who declare in writing their intent to produce more than 15 acres of wheat in any given year are eligible to vote.

**RECENT DEVELOPMENTS IN DAIRY CATTLE FEEDING**—Dr. C. A. Lassiter of the Michigan State University dairy department reviewed recent developments in dairy feeding. His report included comments on certain feed additives and pelleting. The following is from his summary:

**Antibiotics** — Most data collected under experiment station conditions have shown negative results concerning the value of feeding antibiotics to mature dairy cattle. Results of recent field studies tend to question the experiment station data.

Recent MSU field studies show that Aureomycin-fed cows produced 0.21 lb. more milk per day than control cows. This occurred entirely through an increased persistency of milk production. The trial was conducted during the pasture season.

Some cattle fed Aureomycin experienced trouble with bloat. All cattle fed Aureomycin did not have trouble, and the occurrence of the bloat seems to be centered in the higher producing herds.

The antibiotics may reduce some health problems in some herds but our data are not complete enough to make a proper evaluation.

**Tranquilizers**—So far the use of tranquilizers in dairy rations is very much in the experimental stage. Colorado has had good results in quieting restless cows, but the only feeding results are some experiments at MSU. Early work was done with hydroxyzine (Tran-Q) fed at 2.5, 5, 10, 30 and 50 mg. per day. Only at the 10 mg. level was there indication that the tranquilizer increased milk production.

A 90-day continuous trial has just been completed using hydroxyzine at the 10.0 mg. level and tyzine at the same level. Results show that neither tranquilizer beneficially affected milk production.

**Enzymes**—The same enzymes being used in fattening beef cattle rations probably will not do the job in dairy cattle rations. Until we find an enzyme that is beneficial in high-roughage type rations, I see very little value of including enzymes in a dairy cattle ration.

**Live Yeast Cultures**—We can find no evidence that live yeast cultures are of any value other than the amount of nutrients they may contain. MSU has worked with these products and we did not obtain any evidence of improving the over-all performance of the ration.

**Chemobiotics** — Limited work has been done with dynafac at MSU and the results of this trial showed no advantage of including dynafac in the ration.

**Roughage Pelleting**—Grinding and pelleting hay for beef cattle and sheep looks real promising if the cost of such operations can be held low. However, this cannot be done with hay that is to be fed to milking cows because ground hay results in a drop in the butterfat percentage of the milk.

Thus, considerable effort is being put forth to pellet or "wafer" either long or chopped hay. Results of feeding trials in California, Oregon and Wisconsin with the hay "wafers" has shown no advantages, from the animal standpoint, over either chopped or long hay.

MSU researchers are trying to develop a machine that will make a smaller pellet that may be more acceptable by the animal. If we cannot find a pellet size, or some other pellet characteristic, that will improve the consumption of hay by cows, I do not see the pelleting of hay having a great deal of effect on the way we are now handling hay.

**TOMORROW'S FEED ADDITIVES** — In his talk on feed additives, Dr. W. N. McMillen, A. E. Staley Manufacturing Co., Decatur, Ill., made the following observations concerning developments in amino acids, vitamins, trace minerals, antibiotics, arsenicals, medicants, hormones and tranquilizers:

**"Protein (Amino Acids)**—There is much evidence that synthetic amino acids (tryptophane, lysine and others) will make lower protein and less expensive formulas possible if and when the synthetic products become low enough in price for general use. Methionine is already in use in poultry rations. . . .

**"Vitamins**—In addition to A and D, the other fat soluble vitamins, E and K, have found a place, particularly in poultry rations. Several B-vitamins are well established in modern swine and poultry rations. Recent research indicates that others may find a more important place. . . .

**"Trace Minerals** — The discovery that zinc is useful in preventing parakeratosis in swine is a classic example of the possibilities of solving other nutritional problems with proper trace mineral additions.

Recent evidence indicates that copper supplementation may have a place in poultry and hog feeds. Low zinc diets may lead to thin egg shells and reduced hatchability in poultry. . . .

**"Antibiotics and Arsenicals**—Antibiotics continue to enjoy widespread use for their growth stimulation and health protection action. Arsenicals and a number of other compounds serve much the same purpose. There will be new antibiotics in the era ahead as well as numerous new compounds with antibacterial properties.

**"Medicants**—In addition to antibiotics and arsenicals, there are many drugs used in stress, disease and parasite control. Coccidiostats, blackhead control drugs, sulfa and wormers fall in this category. This is a particularly fertile field for new compounds.

**"Hormones**—Stilbestrol for cattle is another classic in nutrition development. It is one of the most reliable and consistent feed additives. Hormones are also useful for poultry, especially caponettes. Further practical uses for hormones will be found.

**"Tranquilizers** — Many tranquilizers are being tested and some used commercially in cattle feeding. In general results have not been consistently good. Since many kinds are being tested it is probable that one or more may be found to be helpful in cattle nutrition. Tranquilizers have several uses in overcoming stress, and more will be found."

**"WHAT DO I EXPECT OF MY FEED DEALER?"**—Stanley M. Oswalt, dairy and poultry farmer, Vicksburg, Mich., said he expects the dealer to provide the best feeds that modern technology can produce and still be economically sound. He emphasized service, too, noting that it is as necessary and important to buy service with goods from the feed and grain industry as it is when buying automobiles or household appliances.

Mr. Oswalt said he also expects the dealer to provide equipment and supplies that he can guarantee and service. "I expect my dealer to make a study of and handle related equipment that is best suited to do the job on my farm," he said.

A dealer should provide a service of qualified information and husbandry practices on the farm, said Mr. Oswalt. He said that "highly technical and qualified men in the field and the dissemination of information are a must."

A dealer should keep the customer informed of all current goods and services available, according to Mr. Oswalt. He said for some time he has felt a need of more knowledge of the dealer's services that are available, his policies and items that he handles. "At present, I am taking advantage of his grain bank, but am still a little foggy as to just how it operates. I would like a sheet or pamphlet compiled by my dealer which would keep me currently posted on all goods and services handled by him and explaining his policies on service and credit charges.

Concerning responsibility in the market place, Mr. Oswalt said, "It might seem good business for a dealer to sell any item that a farmer insisted upon buying. But, to promote dealer sales in the production of a farm product that cannot possibly be produced and marketed competitively would create negative faith and good will and hurt the dealer's standing in his community. I feel that my dealer has a stake in the marketing of all food and fiber from my farm, and not just those farm products that he himself normally processes or markets."

## BEEF CATTLE

(Continued from page 1)

room to go forward with modern technology and methods if persons involved are ready and able to do so.

● Marked economies and efficiencies in larger scale production have been shown, which is likely to mean a continuing trend toward fewer and larger feeding units.

● There is "great promise" in production and marketing research in the beef cattle industry, which indicates possibility for further progress through research.

● While much progress has been made in feeding, there still are important needs in nutrition knowledge. Acquiring and applying information relating to physiological factors also will be very important. And in these fields there will be opportunities for researchers and the feed industry.

● As in other phases of food merchandising, the demand increasingly will be for "identified beef"—a uniform, repeatable product in steady supply. The market is responding to changes brought about by today's consumer wishes for both leanness and tenderness. For those who can provide the modern specification product that will be in demand, there will be opportunities.

● As in other phases of animal agriculture, vertical integration is a subject of interest to the beef cattle industry. It appears that currently 10 to 20% of fed cattle come from integrated arrangements, and it was predicted that there will be "slightly more" integration in the beef cattle industry.

Summaries of some of the talks follow:

**MANAGEMENT SYSTEMS AND PRODUCTION EFFICIENCY IN BEEF CATTLE**—Beef occupies a favored position among protein foods, but continued progress must be made in the industry if it is to maintain this position, it was pointed out by Dr. Robert C. Kramer, agricultural economist at Michigan State University. Improved management systems and increased production efficiency will be needed to keep beef the king of meats. Everyone in the industry will have to adopt cost-reducing and output-increasing innovations.

Comparisons with other phases of animal agriculture, Dr. Kramer noted, reveal that the pace at which innovations are adopted in the beef industry will need to be accelerated.

Production efficiency in beef cattle is increasing, but compared with other food commodities, the beef story could be brighter, the economist observed.

In addition to discussing management systems and efficiency, Dr. Kramer gave particular attention to the increasing size of cattle operations, and he commented on integration trends, noting prospects for "slightly more vertical integration" in the beef cattle industry.

Citing progress in research and production, he said, "There is no question about increased beef production per beef animal. The question is how much more efficient feed converters the 1960 models are compared with the 1930 models."

Dr. Kramer mentioned the following as some of the advances and factors in cattle operations: Less seasonality in cattle production and marketing; faster growing and fattening; more use of tested breeding stock; improved management of herds with higher calving percentage; better disease and insect control; larger units in both production and fattening; increased use of custom and commercial feeding operations; higher quality roughages and feeds; substitution of capital for labor in roughage and feed handling; use of wider range of rations — high roughage rations in some cases and very high energy rations in others; expanded use of feed additives, implants, minerals and other chemicals and biologicals.

### Larger Units

The trend toward fewer and larger cattle producing operations will continue as specialized knowledge becomes more important, Dr. Kramer said, but at present, operations on an over-all average basis are still small. For example, census data showed that in Iowa, 87% of the farms with cattle sold less than 40 beef animals in a year. Even in the West, there are a good many small operators, although they do not account for much of the total output. With larger numbers of small units, innovations and systems are not introduced very rapidly.

Incidentally, it was pointed out that while the Corn Belt still ranks first in cattle feeding, it is losing, percentagewise, to other areas, with the West gaining through both higher inventory and faster feeding. Traditionally, Corn Belt feeders have fed relatively small lots, while in the West smaller operators account for only a small percentage of all cattle fed. In California on Jan. 1, 1957, 92.7% of cattle on feed were in lots whose capacity exceeded 1,000 head.

While the farmer-feeder is still dominant in the Corn Belt, commercial feedlots are springing up, with

# Chicks Placed in Principal Broiler Areas

(000's omitted)

| Week ending | Maine | Conn. | Penn. | Ind. | Ill. | Mo. | Del. | Md. |
|---|---|---|---|---|---|---|---|---|
| August 15 | 1,054 | 485 | 757 | 791 | 103 | 815 | 1,742 | 1,782 |
| August 22 | 980 | 420 | 859 | 767 | 138 | 805 | 1,607 | 1,967 |
| August 29 | 1,048 | 446 | 714 | 710 | 100 | 768 | 1,569 | 1,934 |
| September 5 | 1,061 | 427 | 774 | 604 | 156 | 724 | 1,326 | 1,871 |
| September 12 | 838 | 332 | 724 | 633 | 111 | 627 | 1,419 | 1,710 |
| September 19 | 407 | 402 | 647 | 622 | 106 | 557 | 1,179 | 1,871 |
| September 26 | 817 | 346 | 590 | 571 | 121 | 598 | 1,125 | 1,827 |
| October 3 | 898 | 372 | 658 | 494 | 83 | 506 | 1,097 | 1,797 |
| October 10 | 831 | 514 | 597 | 566 | 114 | 564 | 1,022 | 1,880 |
| October 17 | 724 | 445 | 483 | 524 | 106 | 574 | 1,189 | 1,833 |

| Week ending | Va. | W. Va. | N.C. | S.C. | Ga. | Fla. | Ala. | Miss. |
|---|---|---|---|---|---|---|---|---|
| August 15 | 1,009 | 528 | 2,660 | 292 | 5,738 | 177 | 2,973 | 2,169 |
| August 22 | 1,060 | 463 | 2,581 | 272 | 5,370 | 205 | 3,019 | 2,036 |
| August 29 | 1,001 | 486 | 2,396 | 303 | 5,331 | 170 | 3,034 | 1,780 |
| September 5 | 984 | 467 | 2,405 | 263 | 4,812 | 213 | 2,906 | 1,664 |
| September 12 | 896 | 386 | 2,355 | 257 | 4,668 | 234 | 2,568 | 1,618 |
| September 19 | 688 | 374 | 2,089 | 267 | 4,537 | 168 | 2,596 | 1,689 |
| September 26 | 739 | 296 | 2,186 | 272 | 4,452 | 179 | 2,405 | 1,675 |
| October 3 | 832 | 391 | 2,232 | 270 | 4,383 | 145 | 2,284 | 1,656 |
| October 10 | 831 | 381 | 2,202 | 283 | 4,510 | 167 | 2,427 | 1,554 |
| October 17 | 658 | 344 | 1,841 | 295 | 4,500 | 155 | 2,306 | 1,614 |

| Week ending | Ark. | La. | Texas | Wash. | Oregon | Calif. | Total 22 areas 1959 | 1958 |
|---|---|---|---|---|---|---|---|---|
| August 15 | 3,077 | 413 | 2,073 | 340 | 186 | 878 | 30,034 | 31,232 |
| August 22 | 3,024 | 366 | 2,028 | 286 | 161 | 888 | 29,301 | 30,025 |
| August 29 | 2,869 | 391 | 1,975 | 277 | 213 | 800 | 28,315 | 28,883 |
| September 5 | 2,769 | 337 | 1,870 | 317 | 128 | 839 | 26,917 | 28,117 |
| September 12 | 2,657 | 318 | 1,895 | 282 | 177 | 852 | 25,685 | 27,265 |
| September 19 | 2,648 | 308 | 1,711 | 244 | 107 | 726 | 23,963 | 25,781 |
| September 26 | 2,554 | 327 | 1,689 | 194 | 160 | 916 | 24,039 | 25,502 |
| October 3 | 2,620 | 331 | 1,596 | 211 | 172 | 962 | 23,990 | 27,134 |
| October 10 | 2,483 | 392 | 1,512 | 260 | 185 | 951 | 24,226 | 27,277 |
| October 17 | 2,656 | 432 | 1,560 | 205 | 172 | 859 | 23,475 | 26,158 |

specialization made possible by more automation. Custom feedlots have started in the Corn Belt, South and Southwest, as well as in the West.

Dr. Kramer went on to present information indicating that the size of large cattle feed yards will continue to increase because of additional economies, while some small operators have had trouble in obtaining feeder cattle and in competing with larger yards. A study showed that "net non-feed costs were 50% higher for the smallest group of yards compared with the largest group. This is quite a difference and very difficult to offset, even if home-produced feeds and underemployed seasonal farm family labor are used." In addition to efficiencies, greater ease in obtaining credit also is a factor in the trend toward larger operations.

**Integration**

Regarding integration, Dr. Kramer said it appears that 10 to 20% of the fed cattle slaughter come from integrated arrangements—the principal current types being packer feeding, chain store feeding and custom feeding for ranchers.

He said increases in numbers of cattle fed out for ranchers will more than offset the expected decline in numbers fed out for food retailers. And with packer-fed cattle numbers increasing slightly, the trend is for slightly more vertical integration in the beef cattle industry.

Meat packers are expected to feed about the same percentage of the total number fed as they have in recent years, in their own facilities and to a greater extent in custom yards. As total numbers of fed cattle increase, there will be some further increase in packer feeding. Feeding and meat packing by food chains are declining because there are fewer chain-owned plants, custom cattle yards have increased in number and the availability of cattle and beef have increased. The availability of custom yards and the services they provide will probably encourage more ranchers to have larger numbers of cattle fed out.

**BEEF DEMAND AND RESEARCH**—Dr. Earl L. Butz, dean of agriculture at Purdue University, looks for a 50% increase in effective demand for beef in the next 20 years. This is based on expected population growth and some further gain in per capita use.

Twenty years from now, U.S. population may hit 255 million, and this, assuming no change in per capita consumption of beef, would mean a 44% increase in the total outlet for beef. In addition, per capita real income may rise by 50%, and this may result in a 5% increase at the farm level in amount of money spent for beef.

Commenting on food promotion, Dr. Butz said: "Our efforts should be to expand the consumption of all meats. If we dissipate our resources in attempting to persuade consumers that they should eat more beef —perhaps at the expense of pork or lamb or poultry—about all we accomplish is to induce the pork, lamb and poultry industries to spend an equivalent amount of money in 'offset promotion,' and the whole industry ends up about where it started, except with a big promotional bill on its hands."

Dr. Butz went on to emphasize that "there's great promise in research for the beef industry. Research on the production side can be cost-reducing, and research on the marketing side can be consumption-expanding." In connection with production research needs, he pointed out that there have been greater increases in production efficiency and consumption in poultry products and that the stage has now been set for revolutionary changes in swine production and marketing. Beef production efficiency, he said, has been stepped up, "but not enough."

He said research will have to be stepped up in order to meet the anticipated 50% increase in effective demand in the next 20 years.

"We must not let current agricultural surpluses, nor the prospect of increased cyclical marketings of beef two or three years hence, dissuade us from our long-term campaign to achieve better living for all of us through research," Dr. Butz declared.

He said the cattle cycle will continue in the foreseeable future, but each peak will be higher than the previous peak and each trough higher than the previous trough. In 20 years, at least 125 million head of cattle will be needed, assuming that the industry at the same time can increase output per animal by one fourth.

**NUTRITIONAL FACTORS INVOLVED IN BEEF PRODUCTION**—Dr. J. H. Meyer of the University of California animal husbandry department presented en extensive review of beef cattle nutrition information and needs, focusing attention on certain areas which he said deserve emphasis in considering production efficiency.

Dr. Meyer summarized his presentation as follows:

The symbiotic relationship between ruminants and the rumen microflora is one of the most important factors affecting the production efficiency of beef cattle. Utilization of cellulose from fibrous feeds by the microflora provides fatty acids as energy sources for the ruminant. Lignification should be the primary consideration in selection of forage species, grazing management of the range and pasture, harvesting of forage, methods of feeding roughage, and utilization of poor quality roughage. Not only is lignin indigestible, but more important, it interferes with cellulose digestibility.

Protein and vitamin needs are simplified by the synthesis of amino acids and B-complex vitamins by the rumen microflora.

The maintenance requirement of the physiological functions (maintenance, growth and fattening, reproduction and lactation) requires the largest proportion of the nutrients needed in beef production. Keeping this constant overhead cost as low as possible is a most important aspect of production efficiency of beef cattle. Too little is known and much research is needed on all the factors influencing maintenance requirements.

Though a great deal is known about growth and fattening of beef cattle, a reevaluation of requirements, feeds and management is needed in terms of carcass production. It is suggested that main measurement in nutritional research be the carcass corrected to a desirable fat content.

More information is required on nutrient requirements and the influence of level of nutrition on the cow and calf (reproduction and lactation). Only a small start has been made in this area.

A more comprehensive system of feed evaluation utilizing the net energy principle should be adopted in the near future. It is suggested that a feed equivalent system be developed through cooperative research projects at various interested experiment stations. This combined with chemical analysis would enable the beef producer to more accurately select the proper feeds to meet nutrient needs.

**PHYSIOLOGICAL FACTORS AFFECTING THE EFFICIENY OF BEEF CATTLE**—Tailoring of feeds for different climates in different areas of the country and development of feeds and forage with desirable hormonal activity were among the possibilities mentioned by Dr. F. N. Andrews of the Purdue University animal science department in a discussion of physiological factors affecting efficiency of beef cattle.

Dr. Andrews discussed three aspects of this subject—effects of climatic factors, problems in reproductive physiology and the physiology of growth.

As part of his comments on heat stress and other aspects of the climate factor, he noted that the nutritional requirements of animals in an "average" environment are becoming better understood, and there is adequate evidence that in the next decade scientists must reinvestigate these requirements for each species under different environmental conditions. In the future, he said, there likely will be, as in the case of gasoline, feeds for different parts of the country.

In discussing the physiology of growth, Dr. Andrews pointed out that since there are only limited means of recognizing genetic makeup, scientists must concern themselves with possibilities of altering growth in other ways. In this connection he mentioned estrogens (such as stilbestrol) and androgens (the male hormone group).

One of the areas of considerable current interest, he continued, is the role of plant hormones in the animals which consume them. It is known that certain legumes, including alfalfa and ladino clover, may have appreciable estrogenic activity, and research has shown the value of estrogenic activity in alfalfa, for example. Further studies are being made on selection of alfalfa for both high and low estrogenic activity. The development of new materials for growth regulation and development of feeds and forage with desirable hormonal activity have "real possibilities," said Dr. Andrews.

**THE ECONOMIC IMPACT OF IDENTIFIED BEEF IN THE MARKETPLACE** — Developments of interest to the feed industry as well as others concerned with beef production were pointed out by Dr. Herrell DeGraff of Cornell University in a discussion of "identified beef"—a uniform, repeatable product which can be found and identified in the market either in the carcass or the consumer cut. The economics of identified beef, he said, are no different from the economics of any other specification production in modern food merchandising.

Dr. DeGraff first showed how the character of the beef supply has been changing, with a more uniform and better quality product in more steady supply. The sale of 80 lb. of beef per person per year at today's prices, in competition with abundant and cheaper pork, could not have happened with the lower quality and more variable beef supply of the past, the economist said.

He went on to cite the new concept of acceptable quality. Repeated studies indicate that consumers want two characteristics in meat which historically have been at opposite ends of the range of beef grades. The first is tenderness, long associated with highly finished beef, and the other is leanness, historically not found to desired degree in association with tenderness. Now, however, there is evidence of acceptable beef from the point of view of tenderness coming to market with lesser finish than has been true, or thought possible, in the past. Customers are increasingly accepting beef with lesser finish, now down into the Good grade, because of changes in the quality of blood lines in beef herds and because of new characteristics and uniformity in the cattle that are producing the "block" beef supply.

Dr. DeGraff said that "the new characteristic of age—meaning uniform youthfulness in the slaughter cattle—is gaining supremacy over the historic characteristic of finish—meaning fat—in the production of an acceptable consumer product. This new product is combining the two most desired characteristics, tenderness and leanness, in a degree never before possible. . . . The market is beginning to discriminate against what is regarded by consumers as unnecessary increments of fat beyond the amount that makes acceptable eating quality by **their** standards. This discrimination is reflected in the narrowing price differentials across all grades of fed beef."

Today's beef, the speaker continued, has had its success in the competitive market for food because, whether or not it is the ultimate in desirable characteristics, it is notably acceptable to the consumer. Retailers' specifications call, obviously, for an identifiable product, Dr. DeGraff said. These specifications have had an impact on packers, and in turn on feeders, and in turn on ranchers.

Concerning government grading, he said that he thinks "the whole debate (on government grades) is something less than vitally important and that it will become still less important in the future, especially to producers of cattle." Government grading probably was a stimulus to specification buying, but this system of buying would have come anyway.

He predicted that more retailers will tend to shift away from use of government grades. They will shift down in the grade range because their customers will find that something less than the Choice grade, as it now stands, will be entirely acceptable. The retailer probably will be putting his own reputation behind beef and then look to his packer and suppliers to provide him with what he needs and to stand behind the acceptability of whatever they deliver.

"The fundamental development of today's young, lean and tender supply of block beef is something bigger and more potent than anyone's grade stamp, including the government's," Dr. DeGraff declared.

## MARKETS

(Continued from page 2)

seasonal improvement may be expected around the middle of November or possibly slightly later.

Feed grains recently have shown some signs of increasing in price. Corn has bounced back off its bottom level by a couple of cents. New highs for the season were being registered in oats. These changes could possibly be the forerunner of at least a slight improvement in demand for the manufactured article.

### South Central

Business is a little slower than it was a week ago and most mills have curtailed production a little further. Only in rare instances are mills able to operate over four days. Order backlogs are down to rock bottom. mills are dependent upon what comes in each day to be able to operate the next.

Mixers say they are not surprised at the present slow rate of business. Formula feed demand usually takes a breather during the first rush of fall harvesting when corn prices are depressed. And, it is taken for granted that there will not be much change in business either way, up or down, for the next several weeks. After some of the cheap corn gets out of the way, feeders will be more inclined to turn to formula feeds.

### Ohio Valley

With this year's harvest of crops suitable for animal feeds reported the largest in many years, and with the consequent slow-down in formula feed requirements, Ohio Valley feed manufacturers foresee little if any business improvement for some time to come.

"The going is rough and we will just have to sit it out," declared one manufacturer grimly. His remark summed up the opinion of a number of other area manufacturers.

Ideal autumn weather during the last week, with temperatures ranging in the mid-60's, has been a further contribution to the current lack of farmer interest in buying other than minimum requirements of formula feeds. Among these, dairy and hog feeds were setting the pace for the draggy market. Another aspect of the present colorless market situation has been the decline during the last week of from 3@5¢ in egg prices. While fryer prices have remained steady, supplies have been ample to meet consumer demand.

### Mountain States

Cattle feed business is especially good. Feed plants are working overtime, including Saturday and Sunday, making cattle feed. Sales volume has been much improved over the previous week, and it is up a good deal over a year ago at the same time.

Feed lots in this area are getting jammed now, and ranchers are stocking up on range pellets.

Cattle and calves being fattened in Colorado feedlots represent a 15% increase from a year ago and a 2% increase from three months ago.

### California

Demand for formula poultry feed in California drifted lower the past week as egg prices fell and turkey marketing increased. The future picture was not too bright with broiler and layer placements following the traditional seasonal decline.

Returns to producers on large eggs have dropped 6¢ doz. this month, which is seasonally unusual. The drop in returns for mediums hasn't been as much, but the general market tone has been weak. Latest figures show a 7-10% decline in layer placements from a year ago.

Southern California broiler raisers continue to compete with imports from the five southeastern states. Presently, 75-80% of broilers and fryers come from out of state. Broiler placements are down over 5% in southern California from a year ago, though the declining trend shows signs of being reversed in the northern part of the state.

Fall killings continue to cut into the turkey feed business.

Cattle feed demand presents a brighter picture. The southern California dairy feed industry continues its steady way. The beef cattle population in commercial lots is now over 600,000 with encouraging signs of further increases.

### Pacific Northwest

Pacific Northwest feedstuff markets turned weaker. Sharp declines in soybean and fishmeal prices were prominent in market action. Moderate losses were registered also on whole corn and milo. The balance of the list held unchanged, except for small gains in whole barley and oats. Ingredient buying slowed down and offerings of principle items increased.

Formula feed sales were seasonally slower, resulting from heavy turkey marketing and improved weather. Soybean meal prices dropped as much as $5 ton, and fish meal tumbled 15¢ per unit of protein or $10.50 ton for 70% Canadian herring meal. Wheat millfeeds were 50¢ ton lower and whole corn and milo dropped $1. Barley and oats were exceptions, registering gains as much as $1.50. Alfalfa hay ruled strong under good demand for light offerings of good quality material. Recent rains resulted in a large supply of weather damaged alfalfa, meaning a wide spread in prices, but the trend is firm to higher.

## Cyanamid Schedules Five Sales Meetings

NEW YORK—The agricultural division of American Cyanamid Co., New York, has announced its schedule of regional sales meetings.

Dates and locations of the meetings are: Northeast region, Cherry Hill Inn, Haddonfield, N.J., Oct. 26-27, H. H. Phillips, regional manager; Southeast region, Riviera Hotel, Atlanta, Ga., Oct. 29-30, C. W. Cook, regional manager; Midwest region, The Wagon Wheel, Rockford, Ill., Nov. 5-6, John Howard, regional manager; Southwest region, Sheraton Hotel, Dallas, Texas, Nov. 5-6, Ira Sturkie, regional manager, and Western region, Hacienda Hotel, Fresno, Cal., Nov. 9-10, Hamilton Clark, regional manager.

## J. S. Higgins Resigns From Nichols, Inc.

EXETER, N.H.—G. E. Coleman, Jr., president of Nichols, Inc., Exeter, has announced the resignation of Joseph S. Higgins as vice president and general manager.

Mr. Coleman stated that both men feel the new trends now in evidence for the broiler industry call for a new approach which will not require the services of both men.

Mr. Coleman and Mr. Higgins both expressed confidence in the fiuture of the industry which they feel will continue to grow and develop in a manner which will more nearly gear production to sales of product.

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